The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 82, NO. 13 CHICAGO, ILLINOIS MARCH 29, 1924

KIDNEY OPERATIONS UNDER PARAVERTEBRAL ANESTHESIA *

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The surgeon of today finds his field crowded with operations which, for the most part, are efficient and satisfactory. Operations on almost every organ of the body have been devised and perfected to such a point that further advance of an important nature is hardly to be expected along the lines of improved technic. The progressive surgeon must necessarily turn his attention to perfections other than technic. Great advances have been made in preoperative preparation and postoperative care. This is particularly true in urologic surgery, especially regarding prostatectomy.

Those adjuncts in surgery which have been least developed in America are anesthesia and anesthetics. It would seem that these subjects should occupy the attention of the research surgeon for many years to come; and they offer the greatest outlet for surgical progress at the present time. The wonderful work of Crile, Gwathmey and others in anesthesia is so well known as to require no comment here. The scope of this paper will be a discussion of renal surgery under regional anesthesia.

LITERATURE

Hugo Sellheim [1] originated paravertebral anesthesia in his experimental work on surgery of the abdomen. His work was published in 1905.

Six years later, a successful nephrotomy on an old man suffering from arteriosclerosis, emphysema and chronic bronchitis was reported by Läwen.[2] He produced anesthesia by injecting the posterior roots from the ninth dorsal to the third lumbar nerves.

Finsterer [3] immediately took up the method and found it to be of great value, particularly for operations on the kidney.

Kappis [4] published his first researches in this field in 1912, reporting successful renal and thoracic operations. His interest continued, and ten years after his first contribution he [5] reported eighty operations on the kidney by this method.

Ziegel [6] used 0.5 per cent. procain, blocking the posterior roots of the eighth dorsal to the third lumbar nerve. He performed more than 2,000 operations [7] under paravertebral anesthesia between 1914 and 1919, eighty-eight of which were on the kidney.[8]

Braun,[9] writing in 1914 from the Kiel clinic, considered paravertebral anesthesia most important, all kidney operations being done under it at that time. Härtel,[10] in 1916, wrote an extensive article on the technic of paravertebral anesthesia. He calls attention to several precautions of importance.

In France, Pauchet [11] and Duvergey [12] have utilized paravertebral anesthesia. The latter reported seventeen kidney operations, only one of which was unsuccessful.

The most extensive work in urologic surgery has been done by Snitzer,[13] working in the clinic of Professor Illyes in Budapest.

American literature on this subject is not very extensive. The principal articles dealing with major surgery under paravertebral anesthesia have been written by Farr,[14] Lowry,[15] Labat,[16] and Meeker.[17]

This subject is also briefly discussed in the textbooks of Allen,[18] Braun,[9] Dunn,[11] Farr,[19] Finsterer [20] and Labat.[21]

METHOD OF ADMINISTRATION

The method of administering the anesthesia as we employ it more nearly resembles that utilized by Snitzer than any of the others described in the literature. Procain has been used in this series of operations. It has been quite satisfactory. Experiments are being

* From the Urological Department (James Buchanan Brady Foundation) of the New York Hospital.

1. Sellheim, Hugo: Die Herabsetzung der Empfindlichkeit der Bauchdecken und das Peritoneum durch perineurale injection anesthesiender Lösungen an die Stamme der Nerven intercostales, des subcostales des Ilio-Hypogastricus und des Ilio-Inguinalis, Verhandl. d. deutsch. Gesellsch. f. Gynäk., 1905, pp. 176-179.
2. Läwen, A.: Paravertebral Leitungs Anesthesia, München. med. Wchnschr. **68**: 1390-1391 (June 27) 1911.
3. Finsterer, H.: Zur Technik der Paravertebral Leitungs Anesthesie, Zentralbl. f. Chir. **39**: 601, 1912.
4. Kappis, M.: Ueber Leitung, Anesthesie bei neiren Operation und Thorakoplastin, Zentralbl. f. Chir. **39**: 249-252 (Feb.) 1912.
5. Kappis, M.: Der Gegenwartigestand der ortlicher Betaubung bei Operation an der Harnorgan, Ztschr. f. urol. Chir. **10**: 114-118 (July) 1922.
6. Ziegel, P. W.: Die Paravertebral Anesthesie, Deutsch. med. Wchnschr. **40**: 1416 (July 9) 1914.
7. Ziegel, P. W.: Ergebnisse der weiteren 600 Paravertebral Anesthesie, Med. Klin. **12**: 34-37, 1916.
8. Ziegel, P. W.: Erfahrungen an 2,000 Paravertralen Leitungs Anesthesie in der Geburtshilfe und Gynäkologie, Med. Klin. **14**: 1013-1015 (Oct.) 1918.
9. Braun, H.: Local Anesthesia, translated by Shields, Philadelphia, Lea & Febiger, 1914, pp. 320-321.
10. Härtel, F.: Die lokal Anesthesie, Neue deutsch. Chir. **21**: 259-266, 1916.
11. Pauchet, cited by Dunn, R. S.: Regional Anaesthesia (Pauchet Technique), Philadelphia, Davis & Co., 1921, p. 198.
12. Duvergey, E.: Paravertebral anesthésie, Rev. chir. **42**: 530 (July) 1923.
13. Snitzer, A.: Personal communications to the authors.
14. Farr, R. E.: Surgery of the Kidney Under Local Anesthesia, Urol. & Cutan. Rev. **23**: 80-84 (Feb.) 1919.
15. Lowry, W. H.: Paravertebral Anesthesia in Abdominal Surgery, Illinois State M. J. **42**: 440-443 (Dec.) 1922.
16. Labat, G.: Latest Achievements in the Art of Local, Regional and Spinal Anesthesia, Ann. Surg. **84**: 673-686 (Dec.) 1921.
17. Meeker, W. R.: Nerve Block Anesthesia in General Surgery, Minnesota State M. J. **40**: 123-126 (Sept.) 1923.
18. Allen, C. W.: Local Anesthesia, Philadelphia, W. B. Saunders Company, 1918, pp. 492-499.
19. Farr, R. E.: Practical Local Anesthesia, Philadelphia, Lea & Febiger, 1923, pp. 316-323.
20. Finsterer, H.: Local Anesthesia, translated by Burke, New York, Rebman Company, 1923, Methods and Results in Abdominal Surgery, pp. 328-331.
21. Labat, G.: Regional Anesthesia, Philadelphia, W. B. Saunders Company, 1923, pp. 403-404.

performed by us and by some of our associates with a substance prepared by dissolving 12 gm. of the ethyl ester of *p*-aminobenzoic acid (benzocain) and 12 gm. of the methyl ester of *m*-amino-*p*-oxybenzoic acid in syrup of dextrose sufficient to make 100 c.c. This is one-fortieth as toxic as cocain, as proved by experiments on rats after the method of Hatcher and Eggleston. It is a synthetic product and is gradually being perfected to the point at which it can be utilized for any purpose. If this can be accomplished, it should be decidedly a great advance in local anesthesia.

Fig. 1.—Injection of procain under eighth, ninth, tenth, eleventh and twelfth ribs and in the loin.

TECHNIC

It is of the utmost importance that all nervous excitation be reduced to a minimum. The procedure should be briefly explained to the patient, who may be informed as well of the advantages to be gained by a painless operation without a general anesthetic. The lessened danger and postoperative discomfort should also be called to his attention. The patient must be apprised of the fact that he will feel a half dozen or so little needle pricks when the first injections are made. After these, perhaps a few pulling sensations may be felt, which will at once be relieved on his calling attention to them.

The confidence of the patient is as absolutely essential here as it is in all regional procedures. Naturally, more difficulty will be experienced in highly nervous persons than in those of a more stolid type.

In the Illyes clinic,[22] morphin and atropin are rarely used in the preparation of the patient for operation, and they believe that their patients do better without it. Our fellow countrymen are, as a rule, quite different from the European. Generally they have been living either under high nervous tension or a more or less protected existence. We prefer to give an opium suppository of 1 grain (0.065 gm.) an hour before the operation is begun. This is often reinforced by giving 5 or 6 minims (from 0.3 to 0.36 c.c.) of Magendie's solution by hypodermic injection.

22. Illyes, G.: Personal communications to the authors, 1923.

When the patient is taken to the operating room, he should be lying comfortably on his back, on the carriage. All unnecessary display of instruments and appliances, or signs of haste or flurry, should be avoided. The best possible position for the administration of the anesthetic is that in which the patient sits on the side of the table, the body bent slightly forward, with the shoulders also rolled a little anteriorly and the head slightly bowed. The patient's feet should rest on chairs, placed at such a height that they just allow the thighs to form a right angle with the abdomen. An attendant should stand in front of the patient, and provide the necessary support.

In paravertebral anesthesia applied to renal operations, it is necessary to use the nerve blocking only on one side, as our procedures are usually unilateral. To achieve success in this anesthesia we must successfully block the eighth, ninth, tenth, eleventh and twelfth dorsal nerves. These nerves all send off branches which in one way or another reach the anterior, lateral and posterior parts of the abdominal wall, supplying one or all of its cutaneous and muscular planes. With the lumbar plexus we are chiefly concerned with the first lumbar and its two main branches, the iliohypogastric and the ilio-inguinal nerves. A few branches from some of the other lumbar nerves may appear, but even though they are unimportant, they will be well covered by our regional block of that area.

After the patient is comfortably posed, we proceed to the location of our landmarks, and as each one is reached it should be painted with iodin or some other fairly indelible antiseptic substance. For our intercostal injections we locate a spot for needle puncture starting in its eighth space, usually opposite the angle of the scapula, and then down in each successive space, till we reach the twelfth nerve below the last costal border. These punctures are about 3.5 to 4 cm. from the midline of the back; roughly, a little more than two fingerbreadths from the spinous process. One must be sure that one has the right spinous process, as they sometimes are quite irregular.

We now look for the landmarks of our lower abdominal block or, as some call it, the quadratus block. For this purpose, we take a point about 3 cm. from the spine of the first lumbar vertebra extending anteriorly, and then a point opposite the anterior end of the twelfth

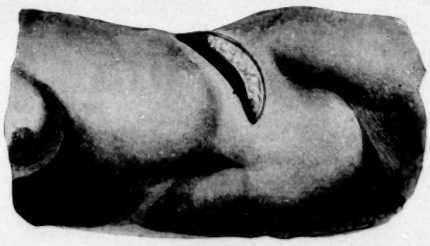

Fig. 2.—Oblique incision.

rib and above the anterior superior spine of the ilium. The lower landmarks are the anterior and posterior superior spines of the ilium. Over each one of these points we raise a wheal, with a medium size Luer type syringe and needle, using 1 per cent. procain. For nerve blockings the European clinics use what is known

as an 8 to 10 cm. Schieber cannula. In this country the Labat needles of about a length similar to those we use in our parasacral anesthesia answer the purpose quite well.

The injections are started by inserting our needle first through the wheals in the intercostal spaces at right angles to the surface of the rib, down to its lower border, injecting as we go. When the lower edge of the

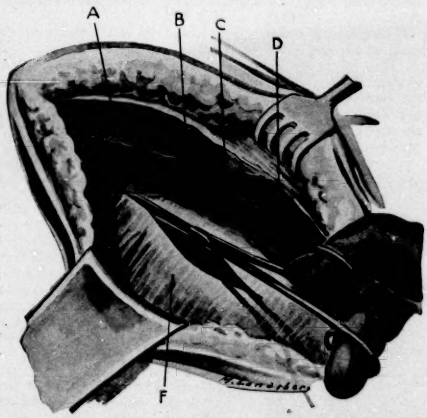

Fig. 3.—The abdominal layers that are incised. *A*, latissimus dorsi muscle; *B*, obliquus externus; *C*, obliquus internus; *D*, transversus; *F*, fascia.

rib is struck, we withdraw the needle a little and then incline it to an angle of from 40 to 45 degrees in the direction of the vertebral column. The needle is then forced over close along the lower anterior edge of the rib until we impinge on the body of the vertebra. This brings us close to the intervertebral foramen, and between the rib and transverse process.

Härtel advises at this point that we proceed with caution, as here there is the possible danger of toxic symptoms from rapid absorption of the anesthetic or its entrance into the dural sac. However, in this particular technic the anesthetic does not reach this point in such a massed amount as recommended by Kappis, Ziegel, Jentzer [23] and others. Our injection is continuous from the time the puncture is first made until we impinge on the vertebra, so that there is no concentration anywhere; nor is it necessary. Five cubic centimeters of the procain is used in each dorsal nerve block, from the eighth to the eleventh. As the twelfth nerve is below the rib and its branches ramify a little more, it is wise to use 7 c.c. here.

Attention has several times been called to the danger of puncturing the pleura, but one is more apt to strike the next rib than the pleura. However, it is well to remember that at the point where we travel with our needle, while the nerve is often covered by plenty of muscular structures, it is separated from the pleura only by the internal intercostal fascia. The pleura is also a little closer to us on the left side.

The quadratus block is now started by injecting widely in all directions (but principally toward the center of this space) both superficially and into the deep planes, from the four points previously noted as the corners of this area. This effectually blocks all nerves that may in any way supply the superficial or deep portions of the abdominal wall in the vicinity of any of our possible incisions.

Previous to making the incision, it is wise to test out all these areas for anesthesia, and, if necessary, reinjection may be made. Patients will often say that they feel a cold sponge, when they cannot feel a needle prick. After the patient is found ready to proceed, the head should be well screened off during the operation, and the patient's attention kept diverted as much as possible by a competent attendant.

The incision should be made as carefully as possible so as not to jar or startle the patient. All tearing or rough dissection should be avoided, as it is difficult to anesthetize against that. When the renal pedicle is reached, traction often occurs; and when this causes pain, which may be of a nauseating type, it may be advisable to inject a little procain around it. In patients who are extremely nervous, the sight of an ether can and a mask with a few drops on it will often work wonders. These patients are usually ready for operation a few moments after the injections are completed. The total amount of procain used should rarely be more than 80 c.c., or at the most 150 c.c. of a 1 per cent. solution.

When the patient leaves the table there is no evidence of any shock, and, as a rule, he is quite comfortable. The men often ask for a smoke. Nausea is never seen.

REPORT OF CASES

Renal surgery under paravertebral anesthesia was instituted in the urologic department (James Buchanan Brady Foundation) at the New York Hospital in the fall of 1923, since which time this form of anesthesia has been utilized in several cases of renal surgery, a few of which are here reported.

Fig. 4.—Kidney being freed from surrounding tissues.

CASE 1.—C. W. C. had been in a sanatorium with pulmonary tuberculosis since May, 1923. In April, 1923, he noticed pain on the left side. In May, he passed a few drops of blood at the end of urination. June 20, he again noticed pain on the left side followed by frequency and urgency, which had been growing worse recently. He had some burning on urination;

23. Jentzer, A.: Les points de référé anatomique et les résultats de la anesthésie paravertébrale, Rev. méd. de la Suisse Rom. **39**: 271-276 (June) 1919.

his appetite was good. The bowels were regular. He had gained 5 pounds (2.3 kg.) in the last three months.

Physical examination showed active pulmonary tuberculosis with tenderness over the left kidney region and along the ureter to the bladder. Rectal examination showed the prostate slightly enlarged, especially the right lobe, which was hard and somewhat nodular. The left seminal vesicle was enlarged. The provisional diagnosis was: tuberculous prostate, possible tuberculosis of the left epididymis, and probable tuberculosis of the left kidney.

Oct. 17, cystoscopy showed patches of cystitis just behind the trigon. A No. 6 lead catheter passed to the right kidney, but the left ureteral orifice could not be found. Phenolsulphonephthalein appeared in five minutes on the right side, with 3 per cent. output in ten minutes and only a slight trace in the bladder specimen, which consisted of the left kidney function plus that which had escaped around the right catheter. The right specimen was clear, with urea, 10 gm. per liter. Microscopic examination was negative. There was no growth of bacteria.

Daily bladder irrigations with 1:4,000 acriflavine were then given. October 23, cystoscopy revealed the bladder much improved. A No. 5 roentgen-ray catheter was passed into the left ureter for a distance of 5 cm. A specimen was injected into a guinea-pig, October 29, and the animal was found dead, November 13, with tubercles on the liver and omentum; the spleen was slightly enlarged.

Ten cubic centimeters of sodium iodid was injected into the left side, and a pyelogram made. Following this a cystogram was made by the injection of sodium iodid into the bladder. The pyelogram showed a definite tuberculosis of the kidney. The cystogram showed what appeared to be an accessory ureter beginning in the posterior urethra. The fluid reached only about half way to the pelvic brim. An attempt was made, November 12, to find this accessory ureter in the posterior urethra, which failed.

The blood pressure was between 100 and 120 systolic. The urine contained a moderate amount of albumin, packed with pus and a few red blood cells. Chemical examination of the blood revealed: urea nitrogen, 12.88. Phenolsulphonephthalein tests yielded: November 15, 20 per cent.; November 17 and 19, each 35 per cent. The patient's temperature after admission showed a considerable afternoon rise, usually between 100 and 102 F., more pronounced following any manipulation.

Nephrectomy was performed, November 20, under paravertebral anesthesia, with good recovery. The postoperative course was uneventful, and the patient left the hospital in good general condition about twenty days after the operation. The wound was healed except for a granulating area about 1 inch long.

CASE 2.—Mrs. H. W., aged 32, entered the hospital, Dec. 27, 1923, complaining of pain in the left part of the back, radiating to the left leg and the back of the head. This pain seemed to be relieved by voiding. She also complained of severe headaches. She had had many attacks of colds, pneumonia, diphtheria, gastro-intestinal trouble, malaria and difficult childbirth, preceded by chills and pain in the left side. The only child born was premature by six weeks, the birth being preceded by some kidney trouble.

Physical examination was negative except for premature auricular systoles and a palpable left kidney, with a slight area of tenderness over this kidney.

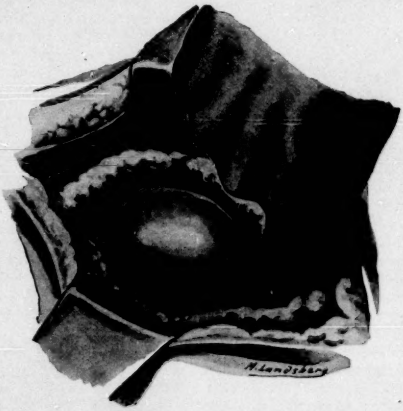

Fig. 5.—Ureter being freed.

Cystoscopy showed a mild cystitis with some bullous edema around the left ureteral orifice. No. 6 catheters passed easily to both kidneys. The urine from the right kidney showed 6 gm. urea per liter. Phenolsulphonephthalein appeared in three minutes, and 13 per cent. was excreted in ten minutes. Urine from the left side was milky; there was a trace of urea. Phenolsulphonephthalein appeared in twelve minutes, and there was only a trace, ten minutes later. Microscopic examination of the right kidney was negative; the left kidney was loaded with pus cells, many epithelial cells and a few red blood cells.

Roentgen-ray examination showed the left catheter at the level of the third lumbar vertebra, and the right catheter at the level of the second lumbar vertebra. The left kidney was moderately low and showed a large calculus or deposit having the outline of calices and additional smaller shadows suggesting multiple calculi. A pyelogram of the left kidney showed extensive destruction of the renal substance, with complete loss of the normal outline of the pelvis.

Operation under paravertebral anesthesia was performed, December 28, as described above. The patient was placed in the usual kidney position and pyelotomy was performed, with removal of stones with fairly good anesthesia throughout. The patient was returned to the ward in good condition, and had an uneventful convalescence, except for slight infection of the wound due to the pus held in the kidney by the stone.

Since the operation the patient has been on acid sodium phosphate and hexamethylenamin, alternating with a potasium bicarbonate mixture and daily bladder lavages. The stones weighed 12.1 gm., were light grayish brown, and were lamellated and friable. They were composed chiefly of calcium phosphate and other earthy phosphates, with a small amount of calcium carbonate.

The patient's temperature after operation varied between normal and 102. The blood pressure remained stationary at 116 systolic and 70 diastolic. The urine has continually shown a trace of albumin, specific gravity, 10.24, and many pus cells. The Wassermann reaction was negative. Chemical examination of the blood revealed: urea nitrogen, 12.42; blood sugar, 0.105. The patient was discharged, healed, Jan. 15, 1924.

CASE 3.—N. C., a man, aged 34, married, complained of burning urination, and pain in the right kidney region. Otherwise the history was irrelevant.

Physical examination was negative except for tenderness over the right kidney region.

Cystoscopy revealed slight edema on the floor of the vesical orifice. Catheters were passed to both kidney pelves. Left side specimens showed 10 gm. of urea per liter; phenolsulphonephthalein appeared in three minutes, 10 per cent. in ten minutes. A wet specimen was negative. Specimens from the right side showed 10 gm. of urea per liter; phenolsulphonephthalein appeared in seven minutes, a trace in ten minutes. A wet specimen was negative. After 21 c.c. of sodium iodid was injected into the right side, a pyelogram was made. Catheters appeared to be introduced into both ureters only slightly beyond the meatus. There were no shadows visible to account for obstruction, if any. The left kidney appeared normal in size, shape and position. The right kidney appeared globular and slightly enlarged, with slight ptosis. There was no evidence of calculi.

Right nephrectomy was performed, January 15, under paravertebral anesthesia, as described. During the anesthesia the patient became faint, but after being placed in a recumbent

position quickly recovered. His pulse remained of good quality but was somewhat faster than normal. The first part of the operation until the transversalis fascia was cut showed good anesthesia, but after this the patient complained of pain; he was allowed to smell a little ether during the rest of the operation. The ureter was tied and cut, and the kidney was removed. The patient returned to the ward in good condition. The anesthesia was partially successful.

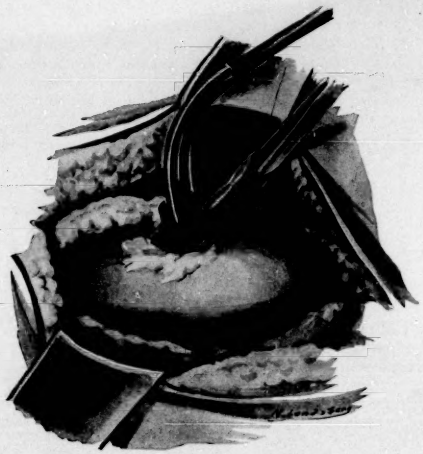

Fig. 6.—Stone removed from kidney pelvis.

Potassium bicarbonate mixture, 1 ounce (30 c.c.) every four hours, was given for six doses before the operation, a 1 grain opium suppository one hour before the operation, and Magendie solution of morphin, 7 mm., before being taken to the operating room. His temperature has gone to 100.6; pulse and respiration are good. The urine shows albumin and many pus cells. Blood urea nitrogen is 17.94; blood sugar, 0.119; plasma combining power, 55; phenolsulphonephthalein, first hour, 30; second hour, 14; third hour, 9. The patient has been very comfortable since the operation, complaining of only slight nausea, but no pain in his side. The wound had healed on the tenth day. The patient was out of bed on the fourteenth day.

CASE 4.—H. S., a man, aged 32, single, first admitted to the hospital, Jan. 13, 1922, complained of pain and swelling in the right upper abdomen, radiating to the back and down the ureter. He had pain but no urinary symptoms. These attacks began four or five years before admission; they came on at intervals always while he was up and about, and were followed by nausea, general malaise and loss of weight. He had had occasional cloudy urine. The right kidney was palpable, enlarged and tender. Cystoscopy on admission showed pus and blood from each ureter, and no phenolsulphonephthalein appearing from either side in thirty minutes. The pyelogram at this time showed an extremely large, completely disorganized right kidney, with a kink in the lower right ureter. Right nephrectomy was done, January 17, following which there was shock, the blood pressure dropping to 65 mm. systolic. Following the immediate administration of 110 c.c. of gum-glucose, the blood pressure jumped to 110 mm. Convalescence was uneventful, and the patient was discharged, February 14.

The patient was readmitted, Jan. 28, 1923. He had been well for the past year until recently, when he had been passing blood, with a severe pain in the left side of the back, radiating to the left lower quadrant. There was tenderness over the left kidney and ureter. Rest and the usual paliative measures were followed by improvement, and he was discharged, February 8. A roentgen-ray examination at this time showed a large left kidney, containing a calculus.

The patient was readmitted, April 5, following cystoscopy. Cystoscopic examination showed cystitis, with much pus in the bladder. A catheter was passed to the kidney pelvis, and pelvic lavage was given. Roentgen-ray examination showed many stones in the kidney region. The ureter was dilated to No. 13 French. The patient was discharged, April 6.

He was readmitted, May 16, complaining of hematuria, after being up and about, with a dull, heavy pain in the left side. Pyelotomy for calculus was performed with uneventful convalescence, and he was discharged, July 5.

He was admitted for the fifth time, July 21, with pain over the left kidney region and fever, and was discharged, July 23, following cystoscopy and pelvic lavage, improved.

He was readmitted, Jan. 25, 1924, complaining of hematuria, gradually increasing in amount, and some tenderness over the left kidney region. Roentgenograms at this time showed two stones in the kidney pelvis, one as big as an olive. The blood nitrogen at this time was normal. The patient went home for a few days, to return for operation.

He was readmitted, January 28. February 5, a nephrotomy and pyelotomy for renal calculus was performed. This operation was done under paravertebral anesthesia in the usual manner. There were so many fibrous adhesions that much difficulty was encountered in reaching the kidney pelvis. A nephrotomy was first performed with an attempt to remove the stone, which failed, and later pyelotomy removed the two stones present.

This was a very difficult case, and the anesthesia was considered satisfactory. The patient has had a rather stormy convalescence, but suffered no shock.

COMMENT

We do not suggest that regional anesthesia be employed in every case of surgery of the kidneys. There are persons of such nervous temperament that even if the kidney not to be operated on were not perfectly normal it would be better to give a general anesthesia than to attempt a blocking off process.

The indications for the utilization of this type of anesthesia are as follows:

The patient must be in a cooperative state of mind.

In case the patient is suffering from a considerable lesion of the heart, either endocarditis or myocarditis, this anesthesia is recommended.

Marked atrerioscle-rosis is an indication for avoiding an inhalation anesthesia.

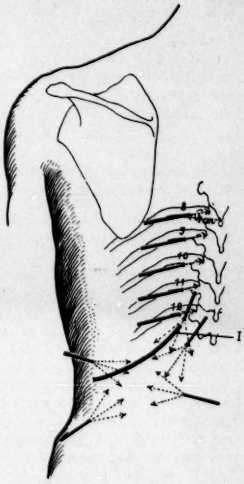

Fig. 7.—Injection of local anesthesia (paravertebral) for operations on the kidney: *I*, incision.

Patients that are suffering from acute chronic tuberculous or nontuberculous lesions of the lungs should receive regional anesthesia.

Patients in whom the remaining kidney is infected or defective should avoid ether anesthesia, as it is known to be very irritating to renal tissue.

DURATION OF ANESTHESIA

One may start to operate as soon as desirable after the administration of the procain has been completed. The drug reaches its full depth within twenty minutes after inception. It does not begin to wear off until at least two hours have elapsed, and there is some persistence of the anesthetic for at least eight hours. The latter feature is of the greatest importance. We have learned that the blood pressure drops below the patient's normal anywhere from 10 to 50 mm. of mercury following a major operation, just as we have shown that it does following severe and exhausting exercise. This drop in pressure begins immediately after the operation is finished, and persists for from four to eight hours or longer. It has even been known to last for many days. If the element of severe pain is added when the patient is at his "zero" blood pressure hour he is much more liable to go into profound shock. With any anesthesia except regional, this happens. It is our opinion that this feature is one of the most important points in favor of the use of this type of procedure.

PRECAUTIONS

The total amount of procain used by us has never exceeded 150 c.c. of a 1 per cent. solution (of procain) or its equivalent.

The solution should be freshly made and sterilized just before use by boiling.

It is our practice to avoid the use of epinephrin entirely, because experimentation has proved that this solution adds considerably to the toxicity of the drug.

It is well before making each injection to withdraw the plunger of the syringe slightly to determine absolutely whether or not it is in a blood vessel. The injection of procain directly into the blood stream has been known to cause a partial paralysis of the respiratory system.

Clinical observations bear out the results obtained experimentally as cited above.

It must constantly be borne in mind that the supreme disadvantage of any injection anesthesia lies in the fact that what is injected cannot be withdrawn, and therefore the greatest attention should be given to the strength and proper sterilization of the solution used.

UNTOWARD RESULTS

Thus far, in approximately 100 cases of regional anesthesia done in the urologic department of the New York Hospital in the past year, we have had no fatalities or near fatalities. One patient had spasmodic contraction of the legs lasting about one minute. Two patients had short periods of excitement. Two others became flushed and confused for a minute or two. Several patients have shown an increased rate of pulse with lowered blood pressure. It is our custom to administer 5 grains (0.3 gm.) of caffein or epinephrin as a stimulant in such cases. This seems to be the best type of stimulation. In none of this series has it been necessary to use gum glucose, physiologic sodium chlorid or other solutions intravenously. Shock and preshock conditions have practically disappeared from our wards.

CONCLUSIONS

Our series of cases is not large enough to warrant conclusions, but our impression is that:

1. In properly selected cases, paravertebral anesthesia is the method of choice for operations performed on the kidney.

2. This method throws practically no burden on the unoperated kidney or any other vital organ.

3. Procain is the drug most suitable at present, although search should be continued for a less toxic substance. Not more than 150 c.c. of 1 per cent. procain or its equivalent should be used on one patient.

4. Epinephrin is more toxic than is generally believed, and should not be mixed with the solution used as a general practice.

5. The greatest advance in surgery of the future will probably not consist in devising new operations or altering old ones, but will be the discovery of new anesthetic agencies and the perfection of methods of administering them.

32 East Sixty-Fifth Street.

INTRA-ARTERIAL INJECTION OF SODIUM IODID

PRELIMINARY REPORT *

BARNEY BROOKS, M.D.
ST. LOUIS

Until the present time there has been no accurate method for the determination in the living patient of the amount and extent of occlusion of the arteries of the extremities. I have already briefly described how this may be accomplished by intra-arterial injection of a solution of sodium iodid, and roentgen-ray photography. Further clinical experience with this method has demonstrated that it is a valuable method in the diagnosis of circulatory diseases of the extremities.

The solution injected is prepared by dissolving 100 gm. of sodium iodid crystals in 100 c.c. of distilled water. The solution is sterilized in the autoclave and is always used soon after its preparation. The solution should be colorless or very faintly yellowish. A solution that shows any considerable iodin color has not been used.

The method of obtaining the roentgenograms of the arteries of the lower extremities is as follows:

The entire thigh is prepared for operation. A sterile tourniquet is placed around the thigh as high as possible but is not tightened. With a local anesthetic of 0.5 per cent. procain the femoral artery is exposed in the proximal end of Hunter's canal. Only enough of the artery is exposed to permit the application of a Crile artery clamp, which is not tightened. The roentgen-ray tube is placed over the knee region, and a large photographic film with a screen is placed under the knee and leg The patient is now given nitrous oxid gas. It has been found that there is pain during the period the solution is in the artery, and the patient cannot be kept still enough to get a good roentgenogram unless a general anesthetic is used. The tourniquet proximal to the exposed artery is tightened enough to produce a filling of the veins. When the veins are full, the clamp on the artery is tightened enough to occlude the artery completely. A short interval is then allowed to elapse for the artery distal to the clamp to empty its blood. A medium sized needle is introduced into the lumen of the artery, and 10 c.c. of the sodium iodid solution is injected. The roentgen-ray tube is then operated for the briefest period possible to secure a good plate. A second plate may be taken of the distal third of the leg and foot. The tourniquet is released, the clamp removed from the artery, and the gas anesthetic discontinued. The wound is then closed.

* From the Department of Surgery, Washington University Medical School.

REPORT OF CASES

The practical application of this method is illustrated by the following brief reports:

CASE 1.—L. F., a white woman, aged 62, admitted to Barnes Hospital, Sept. 19, 1923, discharged, October 22, had ulceration of the leg. Her father died of old age. Her mother died of pulmonary tuberculosis. She had had five sisters, who had died of unknown cause. One brother died of inflammatory rheumatism. She was married at 24 years of age, and had eight children, four of whom were living and well, and one miscarriage. Her husband was living and well. She had always been well except for the present illness. Twenty years before admission, after the birth of a child, the patient developed "childbed fever." After she got up, ulcers developed on both legs. The ulcer on the left leg healed. The ulcer on the right leg had been open continuously ever since.

Fig. 1

Fig. 2

Fig. 1 (Case 1).—Appearance after intra-arterial injection of sodium iodid: The popliteal (*A*), peroneal (*B*) and posterior tibial (*C*) arteries are injected; there is no injection of the anterior tibial artery; a faint outline of the origin of this vessel can be seen (*D*). This injection was done without a general anesthetic, and the sharp outlines of the injected vessels are obscured by movement.

Fig. 2 (Case 2).—Appearance after intra-arterial injection of sodium iodid: The popliteal artery shows no obstruction; the anterior (*A*) and posterior (*B*) tibial arteries are injected for only a short distance; the origin of the posterior tibial artery is markedly constricted (Fig. 3); the lumen of the peroneal artery (*C*) shows marked irregularities.

General physical examination was negative. The distal third of the left leg showed some brown pigmentation and thickening of the skin on the medial surface. The entire circumference of the lower half of the right leg was dense, hard, dark brown scar tissue. On the medial surface there was a large ulcer, approximately 8 cm. in diameter. The base of the ulcer was covered with ragged, necrotic tissue. The edges were irregular in outline, but rather sharply defined. With the patient standing there was slight dilatation of the saphenous vein. There was a good pulse in the femoral artery in both groins. No pulse could be felt in either popliteal space or in the vessels of either foot. With the right foot dependent there was definite cyanosis of the foot. On elevation of the extremity, blanching was marked, but not complete.

Operation, September 27, consisted of injection of sodium iodid into the femoral artery, and perivascular sympathectomy of the femoral artery. There were no local or systemic manifestations following the operation. The roentgenograms showed the popliteal, peronal and posterior tibial arteries injected. There was no evidence of obstruction of these arteries. The anterior tibial artery was not injected. There was a faint shadow at the site at which the vessels should arise (Fig. 1).

October 3, there was distinct improvement. The base of the ulcer was red. Necrotic tissue in the base was separating.

October 22, the ulcer had completely healed. The patient was up and about.

The blood and urine were normal. The systolic blood pressure was 130; diastolic, 60. The Wassermann reaction was negative. The phenolsulphonephthalein test yielded 50 per cent. the first hour, and 5 per cent. the second hour.

CASE 2.—A. E., a white man, aged 50, entered the hospital, Dec. 21, 1923, because of diabetes, and gangrene of the right foot. He had been perfectly well with no symptoms referable to diabetes until about five weeks before, when the right foot was injured by a pocket knife falling on the little toe, and a few days later the patient was exposed in a heavy rain, after which he noticed that the toe was black. His family physician told him that he had diabetes. He was put on a restricted carbohydrate diet. The foot, however, continued to grow worse. Examination on admission showed gangrene involving the fourth and fifth toes and the neighboring portion of the plantar surface of the foot. There was sugar in the urine. The temperature was elevated. Immediate intensive treatment, including administration of insulin, was begun for diabetes. The area of gangrene in the foot increased slightly.

December 26, the femoral artery was exposed, sodium iodid was injected, and roentgen-ray examination was made. The roentgenograms of the injected arteries showed the popliteal artery unobstructed. The injected solution passed into the anterior tibial artery for a short distance. The origin of the posterior tibial artery showed marked constriction, and the injected fluid passed into the posterior tibial artery for only a short distance. The lumen of the peroneal artery was injected throughout the entire course of the vessel. Along this vessel, however, there were many areas of partial obstruction by irregularities in the wall of the vessel (Fig. 2).

December 28, the patient showed no ill effects from the arterial injection; on the other hand, he stated that the pain in the foot was not so severe after the injection. The foot, however, continued to be extremely pale. The extent of arterial occlusion, as revealed by the intra-arterial injection together with a continued irregular fever, was taken as indications that amputation was advisable. The fact that all of the major vessels of the leg were markedly obstructed indicated that the amputation should be done above the level of the knee.

Under gas and oxygen anesthesia, amputation through the distal third of the thigh was done. At this level it was noted that the femoral artery, although showing a moderate degree of thickening and calcification, had its lumen well preserved and showed approximately normal pulsation. The wound of amputation was closed without drainage.

Jan. 7, 1924, the postoperative course of the patient was uneventful. All operative wounds were healed. Temperature and pulse were normal, and there was a marked improvement in the diabetes and general condition of the patient.

Examination of the amputated extremity by means of an injection of an emulsion of freshly precipitated barium sulphate (Fig. 3) confirmed the findings of the previous injection of the arteries during life. In this plate, however, the lumen of the arteries was made more irregular by postmortem blood clots that could not be washed out. The arteries of the amputated extremity were then dissected out. The popliteal artery was found only slightly thickened, containing a few calcified plaques, but in general the artery was elastic and the lumen was well preserved. The posterior tibial, the peroneal and anterior tibial vessels were all of the pipe-stem variety. The origin of the posterior tibial artery

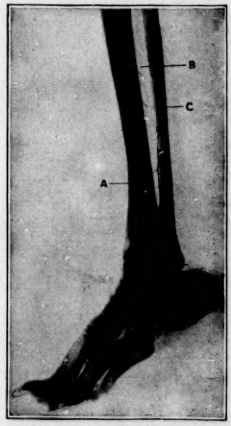

Fig. 3 (Case 2).—Appearance of the injected arteries of the amputated extremity: The anterior (*A*) and posterior (*B*) tibial arteries show only partial injection; the peroneal artery (*C*) is injected, but shows irregularities in outline due partly to arteriosclerosis and partly to postmortem clotting.

was constricted to a pin point opening (Fig. 4), and the greater portion of the artery was entirely obliterated. The anterior tibial artery was also obliterated for the greater part of its course. The peroneal artery showed marked thickening of the entire course of the artery, and in many areas the thickening of the walls were so much as to markedly constrict the lumen of the vessel.

CASE 3.—F. C. Z., a white man, aged 53, had been under the observation of the Washington University Department of Internal Medicine for a period of five years for rather severe diabetes and chronic pulmonary tuberculosis. On admission to the hospital, Nov. 22, 1923, it was noted that there was marked decrease to pain sensation in both legs, and after admission he developed extensive ulceration of both legs.

Jan. 9, 1924, the right femoral artery was exposed. It was apparently perfectly normal. Injection of sodium iodid and roentgen-ray examination showed all the large arteries of the leg injected and apparently very well preserved (Fig. 5).

January 14, it was noted that no manifestations of any injury followed the operation. The ulcers on the legs were healing with the application of wet dressings. There was no perceptible difference in the healing of the two legs.

After the establishment of the fact that there was no disease of the circulatory system of the extremities, the patient recalled that, when taking a bath, he had stood in a tub of hot water before finding out that it was too hot.

Fig. 4.—Marked constriction at origin of posterior tibial artery (compare with Figure 2): *A*, peroneal artery; *B*, posterior tibial artery.

COMMENT

In Case 1, there was ulceration of the leg of twenty years' duration. There were no evidences of varicose veins or venous obstruction. The pulse in the anterior and posterior tibial arteries could not be felt. The Wassermann reaction was negative. There were no other manifestations of syphilis. Injection of sodium iodid into the femoral artery and roentgen-ray examination showed the popliteal, peroneal and posterior tibial arteries unobstructed. There was apparently a complete obliteration of the anterior tibial artery. The injection was not followed by any manifestations of injury; on the other hand, the operative procedure was followed by rapid disappearance of pain and complete healing of the large ulcer in twenty-one days. It is interesting to note that the ulcer occurred on the leg in a site, the blood supply of which comes mainly from the anterior tibial artery, and that intra-arterial injection of sodium iodid and roentgen-ray examination showed a complete absence of the lumen in this vessel. The beneficial results that followed the operative procedure may be attributed to the periarterial sympathectomy which was performed at the same time as the intra-arterial injection; but we have not, heretofore, seen such striking improvement follow this operation. The possibility of the ulcer being syphilitic in origin and responding to the large dose of sodium iodid has also to be considered.

Fig. 5 (Case 3).—Appearance after intra-arterial injection of sodium iodid: All arteries are injected; there are only very slight irregularities and a slight narrowing of the origin of the anterior tibial artery; all the arteries are relatively small; this is interesting, since the patient was much emaciated and had been inactive a long period; *A*, anterior tibial artery; *B*, posterior tibial artery; *C*, peroneal artery.

In Case 2, in which the condition was one of diabetes with gangrene of the foot associated with great pain, injection of the arteries of the extremity with sodium iodid, and roentgen-ray examination showed the popliteal artery to be unobstructed; and there was almost complete obliteration of the lumina of the anterior and posterior tibial vessels. The peroneal artery showed marked arteriosclerosis, with multiple partial obstructions. Subsequently, the extremity was amputated and the findings of the intravital arterial injection were verified by injection and roentgen-ray examination and dissection of the arteries of the amputated extremity. In this case, three days intervened between the intravital injection and subsequent amputation. During this period there were no manifestations of any harm having resulted from the injection. In fact, the patient was relieved of pain after the injection. Furthermore, gross and microscopic examination of the injected artery revealed no evidence of damage to the artery by the injection.

In Case 3, the patient had diabetes, and extensive ulceration of the feet and legs, which had been attributed to deficient circulation probably because of arteriosclerosis, which is frequently associated with diabetes. Examination by means of arterial injection and the roentgen ray revealed no arterial obstruction, and subsequently the true cause of the ulcerative process was found to be burns sustained as a result of a loss of pain sensation. It is interesting to note in this case of long continued emaciation and inactivity that the arteries are all small.

From these and other clinical experiences and numerous animal experiments, this method has been found to give valuable information as to the location and extent

of arterial obstruction. In those instances in which the method has been used, there has been no manifestation of injury to the artery from the injection. In earlier experiences the injection was done without a general anesthetic, and it was found that the patients complained of severe pain during the period the arteries were filled with the injection solution. This pain ceased immediately after the clamp was removed from the artery, permitting the resumption of the flow of blood. The pain, however, was so severe that it was difficult or impossible to get a satisfactory roentgenogram without the administration of a general anesthetic during the brief period in which the injection solution was in the arteries.

An exact knowledge of the site and extent of occlusion of the arteries of the extremity is of great value in the prognosis and treatment of diseases of the extremities due to deficient arterial blood supply. The application of the method described in this paper has been of great value in determining the necessity of amputation in instances of peripheral gangrene, and in those instances in which amputation was indicated in determining the site at which the amputation should be done. It has also, in several instances, established the fact that conditions presumed to be due to arterial obstruction had other causes. Also, in cases of arterial obstruction it is possible to obtain valuable knowledge as to the site and extent of the collateral circulation. Further experimental and clinical work is in progress.

422 University Club Building.

DERMATOMYOSITIS *

LOUIS G. HEYN, M.D.
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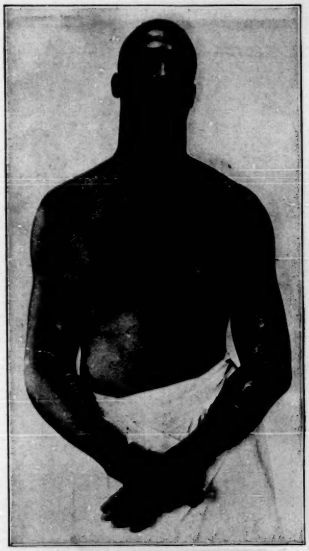
Dermatomyositis, or nonsuppurative myositis, is a severe, generalized, inflammatory disease of the voluntary muscles, accompanied by certain characteristic changes in the skin. The comparative rarity of the disease prompts the publication of this case history.

REPORT OF CASE

History.—J. G., a colored laborer, aged 35, entered the South Medical Service of the Cincinnati General Hospital, July 20, 1923, complaining of dull, aching pains in the neck and in all four extremities, aggravated by any movement of these parts. He stated that, four weeks previous to admission, after working for seven hours in a heavy rain, he had awakened the following morning with a stiffness of the entire body, and was unable to work for two days. He then attempted to work again, but could not do so on account of the increasing discomfort on moving. This discomfort was especially marked in the neck and shoulders, increasing in intensity toward evening and interfering greatly with sleep. The patient had had a syphilitic infection fifteen years before, and a gonorrheal infection twelve years before. He had had typhoid and malarial fevers. His health had been generally good, and he had done hard labor all his life. On admission, his temperature was 98; pulse, 90; respiration, 20.

Physical Examination.—As the patient lay in a rather erect position in bed, there was at once evident an edema of an unusual distribution, slightly marked in the face, increasing down over the neck to the shoulders and chest, and becoming less again from about the lower two thirds of the chest. It was only slightly evident over the abdomen, somewhat more extensive over the lumbar region, and increasing considerably over the hips and thighs. The arms were markedly edematous, but the hands almost not at all, and the lower parts of the legs were also spared. The distribution of the edema, as was quite evident, corresponded not at all to a cardiac or renal picture. As he was a negro, it was difficult to tell whether the skin was redder than normal, although there was a suggestion of this, and in numerous places there were small patches of dermatitis and also excoriations from scratching. A striking feature was the immobility of the patient, as if in a cast. It was due in part to the pain on motion. Touching of any of the parts was extremely painful. The skin was warm. The edema was somewhat brawny and did not pit readily. Cervical glands could be palpated, slightly enlarged. The epitrochlears could not be palpated on account of the edema, but the inguinals were enlarged. The patient also complained of frontal headache and was tender over the frontal sinuses. Further examination revealed a slight exophthalmos, but no Graefe or Stellwag signs. The ocular



Appearance of patient: There was puffiness of the face; diffuse swelling of the neck extended to the arms, but not over the lower arm or hand; at the bend of the elbows was a skin lesion, protected by a dressing held by adhesive strips.

muscles were not impaired; the pupils, though small, reacted normally. There was an injection of the inner half of the right ocular conjunctiva, and also there were a few excoriations about the lips and a slight purulent rhinitis. The teeth were carious and many were missing; the tongue was coated and somewhat tremulous. The pharynx was injected and edematous; the tonsils were submerged, and exposed with difficulty; the soft palate was edematous and moved with difficulty. The patient complained of difficulty in swallowing as well as in trying to bring up secretions which were continually accumulating in the throat. There was a suggestion of the thyroid enlargement and tenderness, but because of the edema, this could not be positively determined.

The chest signs were obviously difficult to elicit, but the lung sounds were apparently normal. The heart was slightly enlarged to the left, 10.5 cm. from the middle line in the fifth interspace. The pulse rate was somewhat accelerated, and this continued to be the case during the whole course of the illness. A soft systolic bruit was heard over the pulmonic area as well as at the apex.

* From the Medical Service of the Cincinnati General Hospital.

The abdominal examination, beyond the slight edema of the subcutaneous tissue, showed nothing abnormal. The spleen and liver were not palpable. An interesting phenomenon was the absence of the knee jerks and the Achilles reflexes, but further neurologic tests revealed nothing abnormal.

The Wassermann reaction of the blood was strongly positive; of the spinal fluid, negative. Blood culture was negative. Pus from the eye secretion showed a few gram-positive cocci. Roentgen-ray examination by Dr. Little showed nothing of significance beyond a slight increase in the transverse diameter of the aorta.

Blood examination revealed: white cells, 9,200; red cells, 4,410,000; polymorphonuclears, 66 per cent.; small and large lymphocytes, 32; large mononuclears, 2; eosinophils, none.

Urine examination revealed: albumin, negative; sugar, negative; a few epithelial cells and pus cells.

Treatment and Course.—Sodium salicylate was given by rectum, and potassium iodid by mouth for ten days without appreciable effect. July 31, we began to administer calcium chlorid, 40 grains (2.6 gm.), three times daily. Within seventy-two hours from the time the calcium chlorid therapy was begun, there was an evident diminution of the edema, and the tenderness became distinctly less. The distress in the throat and the difficulty in swallowing, however, still continued. There was still considerable injection and edema of the fauces and pharynx, but on August 5 a throat examination by Dr. Goodyear revealed a slight paralysis of the soft palate; there seemed to be no laryngeal disturbance. The patient continued to improve, and on August 10, ten days after the inauguration of the calcium chlorid therapy, practically all of the edema had disappeared. The neck muscles were still tender, however, especially the sternocleidomastoid, and it was difficult for the patient to hold the head erect. He also continued to have some throat distress and occasional headache, with tenderness over the frontal sinuses.

August 16, he complained of losing the use of his left arm. Examination showed an evident weakness of the muscles of the arm and forearm. He also had pain over the frontal sinuses, and roentgen-ray examination showed some haziness of the right frontal and ethmoid cells.

August 18, he had a severe chill, with a temperature of 103 F.; respiration, 20; pulse, 120. He still complained of pain over the right frontal sinus and constant aching in the left arm. The temperature subsided within thirty-six hours, and the cause of the rise in temperature was not evident. However, recovery, which had begun some days before, continued to progress satisfactorily, with a slow restoration to normal, with muscular tenderness gradually disappearing and general strength returning. The throat symptoms and the headache were somewhat slower to resolve. The heart murmur disappeared, but the increased pulse rate continued.

The patient was dismissed from the hospital, September 18, about two months from the time of entrance, apparently cured, but still somewhat tender in certain portions of the neck. Two months later he was still unable to work on account of physical weakness.

DIAGNOSIS

When we first saw the patient there was great difficulty in arriving at a diagnosis. It was quite apparent that we were dealing with a disease of the muscular apparatus. A muscular rheumatism of such violence and severity seemed out of the question, but other forms of muscular disturbance, notably syphilitic myositis, and trichinosis had to be considered as possibilities. Even with the positive Wassermann reaction, the clinical picture seemed sufficiently characteristic of dermatomyositis, and after ten days of antisyphilitic measures without relief we felt justified in trying other therapy, to which there was an evident response. The absence of the abdominal symptoms and of eosinophilia were deemed sufficient to exclude trichinosis as a probability. The administration of calcium chlorid, with a definite and rapid relief of the edema, seemed noteworthy, especially when one considers that the disease is progressive and frequently leads to great edema of the neck and chest muscles, with consequent embarrassment of respiration and death by suffocation or pneumonia.

The literature of the disease is meager. Unverricht [1] reports a case almost identical with the one just given, but with a fatal outcome. The description of the necropsy in Unverricht's case perfectly completes the picture that I have presented. The skin was pale and very slightly yellow, but not definitely icteric. The conjunctiva was not icteric. The swelling of the extremities was considerable and uniform. The swelling was not the usual edema, but was brawny and in places could be pitted; but the indentations quickly disappeared. The skin of the thorax was hardly at all swollen, and the abdomen not at all. The face seemed slightly puffy. The heart, brain, kidney, liver and genito-urinary tract showed no pathologic changes. The spleen was somewhat swollen, 13 cm. long, 9 cm. wide and 5 cm. thick, adherent to the diaphragm; pulp soft and dark brown, with follicles enlarged and sharply outlined. The musculature showed extensive changes, which seemed to be distributed to certain groups. The general appearance of the muscles was a dark, reddish brown, but on cross section the appearance was irregularly speckled, pale light gray stripes alternating with dark red areas of evident extravasations. These abnormal areas were either thickly set or more or less scattered through the muscles. Some parts were redder, others pale. The muscles in general were swollen, and had a soft dull appearance. The muscles of the extensor surfaces of the extremities were most involved. Both deltoids, the pectoralis major, the stenomastoid, and the extensors of the forearm and of the thigh and leg were most extensively affected; the biceps, abdominal muscles and the psoas to a less degree; the muscles over the back and the intercostals to a slight degree; while the diaphragm, the tongue and the eye muscles were not at all affected. It is noteworthy that the diaphragm and the eye muscles were not affected as in trichinosis. Over the affected muscles, the subcutaneous tissues were infiltrated with a watery fluid which also extended intermuscularly. The internal organs were free from edema. The general appearance of the muscular tissues suggested that of an inflammatory process, and the microscopic findings bore out this assumption. The interstitial substance of the muscles showed small celled infiltration, the vessels distended with blood and here and there smaller or larger extravasations. The muscle substance showed all stages of degeneration. Side by side in a muscle bundle, certain portions of muscle fibers might show fairly normal striped appearance, while immediately next to this there might be the most marked changes, a loss of the striped appearance, swelling, granular changes, and hyaline degeneration. In others there were fatty changes, but Unverricht found no regeneration in contradistinction to Wagner's findings. Nowhere were any trichinae found.

The histologic characteristics of these diseased muscles were in some respects similar to those found in Zenker in typhoid fever, which are generally known as Zenker's degeneration. The latter condition shows, however, but little interstitial changes, and, of course, the clinical manifestations are altogether different. This condition also differs from the suppurative myositis in which distinct abscesses are found.

1. Unverricht: Ztschr. f. klin. Med. **42**, 1887.

Finally, we are confronted with the problem of etiology. In our case a history of severe exposure to wet, followed at once by a stiffness of the muscles with increasing intensity of the symptoms, is the only clue to its origin; but the simultaneous presence of frontal sinusitis, conjunctivitis and pharyngitis strongly suggests an infectious cause. The negative blood culture and blood count, and an absence of leukocytosis might possibly speak against this assumption. The literature offers no solution.

THE MANAGEMENT OF ABORTION *

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BROOKLYN

This study of the question of the management of abortion is made after a consideration of 1,640 consecutive cases of abortion admitted to the gynecologic service at Bellevue Hospital during 1921, 1922 and 1923. Nine hundred and sixty-one consecutive cases from this number have been subjected to a detailed study.

We define abortion as any interrupted gestation prior to the period of viability. We classify all our cases as aseptic or septic. We consider an abortion septic when the temperature goes above 101 F. by rectum, or if there is any history of intra-uterine intervention. Cases are also further classified as threatened, inevitable or incomplete. The abortion is considered threatened when the uterine hemorrhage is moderate and there is no effacement of the cervical canal. It is inevitable when the uterine hemorrhage is profuse, especially if associated with rhythmic uterine contractions, or if there is effacement of the internal os, or partial protrusion of the ovum. Of the three types of cases, threatened, inevitable and incomplete, the incomplete type forms by far the largest number, 1,528. It is largely concerning the incomplete type of case that the question of difference in management arises. I have intentionally selected the word management rather than treatment, as in the case of an aborting woman active treatment is at many times contraindicated. In our consideration of the management of abortion, let us view the condition from the standpoint of our classification. All patients, on admission, are shaved and prepared as though for labor. No intravaginal cleansing is attempted.

The woman who is threatening to abort requires uterine rest. This we bring about by strict confinement to bed and by morphin. The morphin is given by hypodermic injection in one-sixth grain doses every three hours for at least two or three doses. There is a strict avoidance of vaginal intervention after the admission examination. Bowel hygiene is maintained by daily low enemas. This type of case, in the natural course of events, rapidly passes through the threatened phase, and either the pregnancy continues normally or the abortion becomes inevitable.

The inevitable case is treated expectantly unless active treatment is indicated. Active treatment of this type of case in our hands consists of thorough vaginal packing or stick-sponge removal of the entire or partial products of gestation from the dilated cervix. It is indicated by excessive hemorrhage or the visibility of the products of gestation in the cervix on speculum examination. Sixty-two per cent. of our patients were packed; 53 per cent. were packed once, and in 10 per cent. repacking was necessary. No packing was required in 38 per cent. In all inevitable cases, pituitary extract is given by hypodermic injection in 0.5 c.c. doses every three hours for four doses, or longer if indicated. The inevitable case, like the threatened case, must soon pass into another type; namely, complete postabortal or incomplete abortion.

At this point I wish to emphasize the fact that, in the average case which must pass from the inevitable type to complete postabortal or incomplete abortion, it is impossible to say at once whether or not the abortion has been complete. This

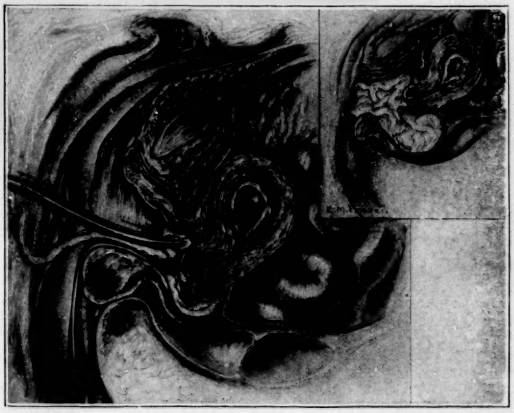

Fig. 1.—Packing being introduced systematically into the fornices; inset, vagina completely packed.

can be decided only by the course of the case over a period of from five to seven days.

As to the incomplete type, we believe that it should be treated expectantly unless active treatment is indicated. Active treatment is indicated by profuse hemorrhage over a short period of time or moderate hemorrhage over a prolonged period of time. Active treatment in this type of case should be instituted according to one of three methods; namely, vaginal packing, stick-sponge removal of the products of gestation, or curettage. As I have said, 53 per cent. of our patients were packed once; 10 per cent. required repacking, and in 38 per cent. no packing was required and but 3 per cent. were curetted.

Vaginal packing, to be of any value, must be thoroughly and properly done. The indication for the packing is excessive hemorrhage. The packing, when successful, checks the hemorrhage in two ways: first, by mechanically acting as a plug, and, second, by stimulating more powerful uterine contractions, thus causing a complete separation of the products of gestation from

* From the Department of Gynecology, New York University and Bellevue Hospital Medical College.
* From the Department of Gynecology, New York University and York Academy of Medicine, Jan. 22, 1924.

the uterine wall, at which time active hemorrhage will cease. All patients that are packed receive pituitary extract, as do the patients in all inevitable cases. The packing is done through a bivalve speculum; it is removed in eighteen or twenty-four hours, and frequently the products of gestation will come away with the packing, or present in the cervix when the packing is removed. In 10 per cent. of our cases, a second packing was necessary. This is handled exactly as is the primary packing; should the hemorrhage persist after a second packing, instrumental evacuation of the uterus is indicated. This instrumental evacuation may be by placental forceps, sponge-stick or curet, dependent on the duration of the gestation. In our series, only 3 per cent. of the cases came to curettage.

Thus far I have been discussing the management of aseptic cases only. The septic cases should never be treated actively. In my opinion, intra-uterine manipulation of any kind is decidedly contraindicated by a temperature of more than 101 F. by rectum. Considering the indications previously given for the active treatment of aseptic cases, namely, sudden profuse hemorrhage or prolonged moderate hemorrhage, and applying the same indications for active treatment to septic cases, active treatment will very seldom be indicated in this type of case. In the definitely septic abortion, the hemorrhage is, as a rule, very moderate by the time the sepsis is established. There are two reasons for this: first, the time element, and, second, in septic cases, the pronounced thrombosis of the uterine and pelvic vessels that is usually present.

In none of our septic cases was there any intra-uterine manipulation or irrigation. We consider septic cases to be those in which the battle is entirely between the leukocyte and the organism, and any intra-uterine intervention, no matter how slight, will favor the organism by disturbing that protective area of round cell infiltration thrown out about the focus of the infection. Our septic patients were placed outdoors and in the Fowler position. Their feeding was forced as much as possible. Some patients received repeated blood transfusions of small quantities of blood at a time; some received arsphenamin intravenously; others were treated by vaccines, serums, foreign protein and neutral flavine. This type of treatment is a matter on which the attendant's personal opinion may rightly vary; but I can see no reason for variation of opinion from the conservative and the radical points of view. I have thus far noted no special difference in ultimate result or in the duration of illness in the septic cases relative to any special type of extra-uterine treatment.

Fig. 2.—Removal of products of gestation from the cervix without traumatism; inset, products of gestation partially protruding from the external os.

CONCLUSIONS

1. All cases of abortion, threatened, inevitable or incomplete, should be treated conservatively until it is demonstrated that conservative treatment has failed.

2. Conservative treatment, properly executed, will fail in something less than four cases out of a hundred.

3. The mortality and morbidity in abortion cases is in direct ratio with the degree of intra-uterine intervention. The more the manipulation and intervention, the higher the mortality and morbidity.

4. Curettage in abortion transposes many aseptic cases into septic cases.

Statistical Study of the Series

	1921	1922	1923	Total
Patients treated	601	608	431	1,640
Statistical study of				961
Cured or improved				943
Died				18
Mortality Study:				
Died of complicating diseases				6
Complicating disease:				
Bronchopneumonia				2
Lobar pneumonia				3
Pulmonary infarction				1
Died of postabortal sepsis				12
Curetted prior to admission				6
Admitted induction of abortion				3
Aseptic patients				768
Recovered				768
Septic patients				193
Recovered				181
Died				12
Positive blood cultures				4

Average period of gestation (of 961)	2.25 mo.
Average number of days of bleeding before entering the hospital.	11
Average number of days aseptic patients remained in the hospital	6
Average number of days septic patients remained in the hospital.	20
Treatment	961
Packing	598
Packed once	518
Required repacking	161
No packing required	345
Curettage	39
Average number of days in hospital after curettage	10

Mortality Study of 1923:

Septic patients died	5
In 1, blood culture was positive for Streptococcus hemolyticus; induced	
In 1, blood culture was negative; Wassermann reaction, 2 plus; curetted at home	
In 1, admitted moribund, death occurred in 12 hours	
In 1, admitted moribund, death occurred in 12 hours; self induced	
In 1, general peritonitis; necropsy; curetted at home	

5. Curettage, therefore, is not only seldom indicated, but is often actually harmful.

6. Conservative treatment has, if possible, a more positive indication in septic cases than aseptic cases.

71 Halsey Street.

THE DEMONSTRATION OF PROSTATIC ENLARGEMENT BY THE ROENTGEN RAY

AFTER DISTENDING THE BLADDER WITH AIR: PRELIMINARY REPORT

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In considering prostatic hypertrophy and the consequent urinary obstruction, it is important for us to know the amount of intravesical hypertrophy. It is often the enlargement of the part around the vesical neck projecting into the bladder in a snoutlike mass, rather than the lateral lobes, that causes the urinary obstruction. Rectal palpation usually affords little, if any, information as to the extent of this intravesical hypertrophy. This can be determined, of course, by cystoscopic examinations, but such procedures are not always feasible or expedient, owing to the age and feeble condition of the patients we are called on to attend.

Fig. 1.—Flat, pyramidal shaped prostatic projection.

We have recently found that air cystograms with the patient lying face downward clearly demonstrate these intravesical shouts, median lobe enlargements, and similar conditions. While air and oxygen have been used in demonstrating the size of tumors of the bladder, sacculations, and the like, we have not been able to find a report of prostates being shown in the manner described above.

We do not advise its use in every case, but rather in those in which additional information is necessary in deciding whether an operation is required and whether it shall be the suprapubic or the perineal approach.

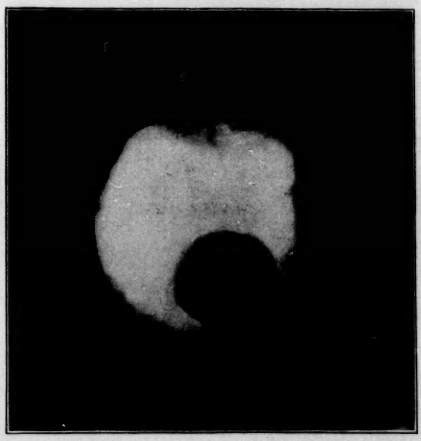

Fig. 2.—Pedunculated median lobe: The lateral lobes were very small; at operation, the mass was found exactly as shown here.

A further advantage we have found is in the graphic manner in which one can demonstrate to the patient the cause of his difficult urination.

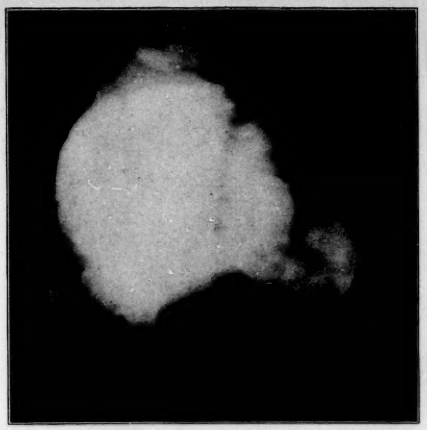

Fig. 3.—Projecting prostatic mass.

TECHNIC

In order to reduce the time of discomfort to the minimum, the patient should be properly placed and all preliminary preparations for the exposure made before the bladder is inflated. To eliminate confusing shadows that may result from feces and gas in the sigmoid and

rectum, a good cathartic, preferably castor oil, should be given from twelve to eighteen hours before, and a low soapsuds enema immediately before the examination is to be made. Just before being placed on the table, the patient is requested to void, emptying the bladder as completely as he can. He is then placed on the Buckey diaphragm in the dorsal position, and a medium size hard rubber catheter is inserted, withdrawing the residual urine, which is measured. A rubber band is then placed round the penis so as to prevent the air from escaping round the catheter. To the end of the catheter is attached a rectal drip which has been loosely packed with cotton and sterilized. To the other end of the drip is attached a piece of rubber tubing about 8 inches long and 5/8 inch in diameter, or just large enough to fit the drip snugly. The opposite end of the tubing is attached to a bulb such as the "Oblo" No. 1. The patient is then placed face downward with the symphysis directly in the center of the Buckey diaphragm, care being taken that he lies flat and that the spine is straight. The buttocks are pulled laterally, and are separated as far as possible, and sufficient compression is made with the canvas band to hold them apart. Too firm a compression should not be made, as it will produce pressure on the bladder, thus causing pain when the bladder is inflated. The use of local anesthesia lessens the pain produced by the passage of the catheter and the injection of air.

The roentgen-ray machine having been set, and the tube adjusted with a 20 degree angle so as to direct the rays upward through the pelvic ring, the bladder is now gently and slowly inflated and the exposure made promptly. The quantity of air to be injected is gaged by the amount of pain caused. In those cases in which

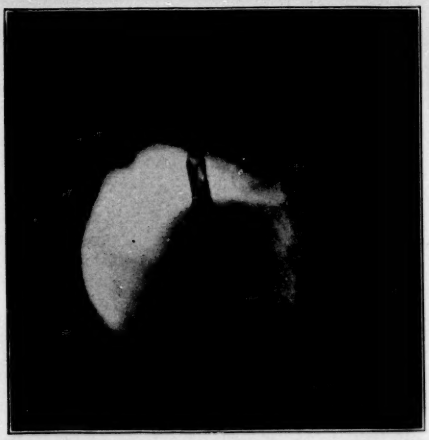

Fig. 4.—Great intravesical prostatic hypertrophy.

a large amount of residual urine has been withdrawn, a large amount of air can be injected with little discomfort; in case of bladder stone and severe cystitis, the patients will complain considerably with a small amount of inflation. The bladder is inflated until the patient complains considerably, which requires from three to five bulbfuls. Immediately after the exposure is made, the air is allowed to escape gradually, and the discomfort subsides within a short time.

The penetration and time of exposure is principally a matter of judgment, much as in making roentgenograms of the kidneys, depending largely on the size of the patient. With medium sized patients, the best

Fig. 5.—Intravesical prostatic hypertrophy; the catheter extends into a small diverticulum in the dome of the bladder; this was confirmed at operation.

results were obtained with a 3½ inch spark gap, 20 milliamperes and ten seconds, using super speed films. With large patients, a 4 inch gap was used.

It should be borne in mind that the object is to show a shadow of soft tissue on a background of air, and that overexposure will impair accurate results.

Healey Building.

SARCOMA OF THE CHOROID

AN UNUSUAL COMPLICATION OF DIABETES MELLITUS

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A history of diabetes, glaucoma and melanosarcoma may prove interesting because of its rarity. The case here reported illustrates the importance of early diagnosis and early treatment.

REPORT OF CASE

A woman, aged 61, American, consulted Dr. Frank S. Meara, July 29, 1921, complaining of severe pain in the right eye, followed by loss of vision. In 1900, a tumor had been removed from "between the vagina and the rectum," and the right ovary had been excised. Nothing is known of the nature of the tumor. For the last four years, at long intervals, the patient had had "chills"; lately they had come every three weeks. The chills lasted two or three hours and were followed by an intense burning sensation over the entire body; there was no pain. For seven years she had been troubled with gas, constipation, and pain under the right shoulder blade and both shoulders. In 1916, the blood pressure ranged from 170 to 230 systolic and from 70 to 120 diastolic. The

phenolsulphonephthalein test was 30 per cent. in the first hour, and 20 per cent. in the second hour. The urine showed occasional traces of albumin and a few hyaline casts. When the patient did not observe the diet, the urine showed 4 per cent. sugar. Her weight was 212 pounds (96 kg.). Her vision had been failing for four years, and she consulted an oculist, who diagnosed cataract. About July 16, 1921, she was awakened by a severe pain in the right eye, temple and top of the head. The right side of her face was "drawn and stiff," and her ear drum felt "pulled in." After twenty-four hours these symptoms subsided. July 26, there was loss of vision in the right eye after intense pain, lasting two hours. The patient was blind in the right eye, and it was impossible to make an ophthalmoscopic examination, owing to opacities in the media.

The area of cardiac dulness was enlarged to the left; the apex and left border were 14 cm. from the midsternum in the fifth interspace. The rate in recumbency was from 110 to 120, and very irregular because of a number of premature systoles. The first sound was of fair quality followed by a short systolic murmur. The systolic blood pressure was 270 and the diastolic from 105 to 110. The radial arteries showed a uniform thickening. A urine analysis showed: specific gravity 1.030; sugar, 0.97 per cent.; albumin, a faint trace. It was negative for acetone and diacetic acid and casts. The blood sugar was 200 mg. per hundred cubic centimeters of blood.

A diagnosis was made of diabetes mellitus, hyperpiesia with cardiac decompensation, and a retinal hemorrhage in the right eye.

The patient entered the New York Infirmary for Women and Children, August 2. The blood sugar was 220 mg. per hundred cubic centimeters of blood. The Wassermann reaction was negative. The volume of the first twenty-four hour specimen of urine was 2 liters; the specific gravity was 1.020; the reaction, acid; the albumin indican and casts were negative; acetone and diacetic acid, a trace; and the sugar was 1.4 per cent. The patient was at no time free from pain in the right eye, which was more marked when the eye was exposed suddenly to even a dim light.

The routine method of Joslin for the treatment of diabetes was instituted. The sugar in the urine decreased rapidly so that, after four days' starvation, the analysis showed a specific gravity of 1.013; albumin and casts, negative; acetone and diacetic acid, 2 plus; the twenty-four hour volume, 1,560 c.c., and the sugar, 0.37 per cent. The blood sugar fell to 160 mg. per hundred cubic centimeters. One hundred grams of 5 per cent. vegetables was given, and increased gradually by 5 gm. of carbohydrates from the 5 per cent. group of vegetables. The only change in the urinary findings was an increase in the acetone and diacetic acid.

The eye pains were becoming more severe. The urine could not be rendered sugar or acetone free, and alteration of the diet did not change the percentage. Carbohydrates were added, with 0.5 gm. of protein per kilogram of body weight; also butter, cream and olive oil. The diets of Newburgh and Marsh were tried out with no success.

The carbon dioxid in the blood plasma was 48.5 per cent. by volume. The patient was not drowsy; she had no headache, but persistent eye pains. The blood pressure fell from 190 to 160 systolic and from 80 to 60 diastolic, and maintained this level except when she had a crisis of pain, when both readings would rise from 50 to 100 points. The patient had lost 32 pounds (14.5 kg.) since admission.

August 27, the acidosis, measured in terms of diacetic acid and acetone, became more pronounced, following increased eye pains. Diet was given, furnishing from 900 to 1,000 calories, the carbohydrate intake being limited to the 5 per cent. group and oatmeal.

September 3, the eyes were examined by Dr. Ira Hinsdale. The cornea of the right eye was steamy, the anterior chamber shallow; the iris was congested and swollen, and lacked luster. The pupils were dilated, and the iris did not react to light or in accommodation. The fundus reflex was absent in the right eye. Tension was raised and projection faulty; light was recognized only in the temporal field. These findings, together with the history, suggested an intra-ocular hemorrhage.

Dr. Berens found the vision of the right eye limited to light perception; that of the left eye, 20/50. Tension, with the McLean tonometer, was 47 mm. in the right eye, and 35 mm. in the left. There were marked circumcorneal congestion and haziness of the right cornea. The iris was congested, dilated and fixed, and the anterior chamber shallow. The lens showed irregular opacities, and no fundus details were visible. The vitreous seemed to be filled by reddish black exudate, probably blood. The light projection was faulty on the nasal side. Transillumination was faulty, possibly owing to the hemorrhage and the cataractous lens. Enucleation of the eye was advised, but contraindicated by the patient's physical condition.

September 4, the patient felt a decrease in the pain in the eye; the urine was sugar free for the first time, and the amount of acid bodies decreased on a fixed diet.

September 7, there were concomitant changes in the pain and the urine which lasted only one day when there was such severe pain in the eye that enucleation was imperative, but still contraindicated by the patient's physical condition. An iridectomy offered some hope of relief from pain, so it was performed, September 16. There was transient relief, after which the condition of the patient became serious. She was more and more exhausted by the pain, although she was given

Fig. 1.—Sarcoma of choroid: The sarcoma may be seen as a mushroom-shaped tumor with its base on the sclera and its apex in the center of the eyeball; the tumor is surrounded by a hemorrhage, and the retina is detached and pushed to one side: *A*, sarcoma; *B*, sarcoma cells in a vortex vein; *C*, hemorrhage; *D*, detached retina.

morphin and codein freely. The blood sugar was 280 mg. per hundred cubic centimeters of blood; the glycosuria and acid bodies were increasing. Enucleation was performed under a local anesthetic, gas and oxygen being used for five minutes during the sectioning of the optic nerve.

The pathologic examination was made by E. B. Burchell. The cornea was normal except at the scleral junction; at this point there was some chemosis; also an incised wound, which passed through the cornea and entered the filtration angle a short distance anterior to the scleral spur. The wound appeared to be recent, as it contained blood, pigment and newly formed connective tissue. The iris on the side of the wound was missing; that on the opposite side was in contact with the endothelial layer of the cornea, and showed considerable atrophy, as did the ciliary processes. The lens showed considerable pathologic change and was pushed forward into the anterior chamber against the pigmented layer of the iris, to which it had become adherent. The retina was completely detached, a condition caused by subretinal hemorrhages and albuminous exudate; it was atrophic. The optic

disk was cupped and filled with blood. The connective tissue surrounding the nerve fiber bundles was thickened; this thickening had caused some atrophy of the nerve. The choroid showed hyperemia, and just back of the equator there was a large mass, mushroom in shape, measuring 12 mm. in height and 10 mm. in width; this growth was made up of round spindle cells that were poor in protoplasm and contained some pigment; the vessels had very thin walls and in places the walls were absent. The growth was that of a sarcoma that is pigmented and appears to have arisen from Haller's layer. Some sections showed the tumor cells passing into the vortex vein but not into Tenon's space.

The postoperative specimen of urine differed from the preoperative in that it contained more albumin, acetone and diacetic acid. Twenty-four hours later the sugar content was only two thirds of what it had been before operation, the acetone about one fourth, the diacetic acid about three fourths. The albumin was very much increased. After forty-eight hours the albumin was the same; there was only a faint trace of acetone and no diacetic acid. After seventy-two hours, there was only a faint trace of albumin and of acetone, and no diacetic acid. After September 27, the urine was normal.

The outstanding feature of this case as one of diabetes is the heavy content of diacetic acid and acetone and the persistent trace of sugar in the urine unchanged by starvation or diets, but always increased by an exacerbation of the severe pain in the eye. After the enucleation of the eye and the cessation of the pain, almost immediate disappearance of the sugar, acetone and the diacetic acid was striking. We feared that the operation might precipitate a serious collapse, but it was the starting point of a rapid improvement.

After operation the patient had little appetite and ate sparingly for several days, except for fruit juices, which she took freely. She was then given 5 per cent. vegetables and the diet built up in the routine method of Joslin. As the blood sugar remained high, 200 mg. per hundred cubic centimeters, she was kept on 15 gm. of carbohydrates, 30 gm. of protein and 50 gm. of fat (a total of 630 calories) for about ten days. She was permitted out of bed two days after the operation, and encouraged to exercise by rolling herself in a wheel chair all that was possible, gaged by her reaction to it in terms of fatigue and of blood pressure; the latter now averaged 160 in systole and 90 in diastole. By October 5, the blood sugar was 170 mg. per hundred cubic centimeters. From this the sugar dropped until, October 24, it was 100 mg., and it has averaged 95 mg. ever since. At the same time the diet was extended until, November 28, she was taking 50 gm. of carbohydrates as 5 per cent. and a few 10 per cent. vegetables, 45 gm. of protein and 130 gm. of fat, giving in all about 1,500 calories. Her weight remained between 161 and 163 pounds (73 and 74 kg.). The urine was sugar free.

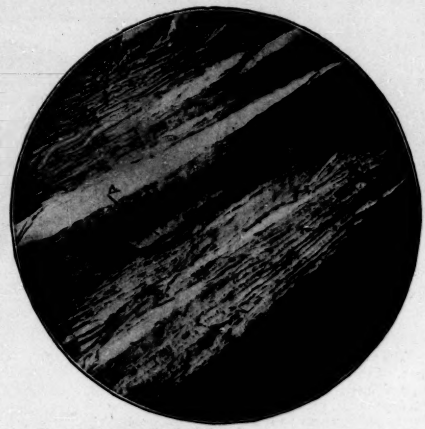

Fig. 2.—Sarcoma cells distending an emissarium of a vortex vein but not quite reaching Tenon's space: *A*, sarcoma cells; *B*, sclera.

September 28, the patient complained of pain over the gallbladder region, radiating to the angle of the right scapula. The abdominal wall was very flabby, she had lost a large amount of abdominal fat, and the viscera were easily palpable. There was exquisite tenderness over the gallbladder. She was not jaundiced, and there was no elevation of temperature. There was no bile in the urine. These symptoms, with the history of pain in the shoulders for seven years, made a chronic cholecystitis seem probable. Her remaining stay in the hospital was uneventful. She gained in strength and felt well, when she was discharged about October 15.

October 28, she consulted Dr. Meara, complaining of pain under the right scapula radiating across the back to the left scapula. There was tenderness over the gallbladder, but the gallbladder could not be palpated. Pressure over the gallbladder region gave a burning sensation along the crest of the ridge of the right trapezius and at the angle of the right scapula. The liver edge was 2 cm. below the costal margin; its edge and its upper and lower surfaces were smooth. A month later these symptoms and signs were still present, and, in addition, there was marked hyperesthesia of the skin over the right scapula and along the suprascapular region.

In view of the melanosarcoma in the enucleated eye we feared that she might have metastases in the liver, cord or lungs and pleura. Roentgen-ray examinations were made of the spine, chest and gallbladder, but no pathologic change was revealed.

Because of the tendency of sarcoma to metastasize early, we sent her, as soon as she was discharged from the New York Infirmary for Women and Children, to Dr. Francis Carter Wood at St. Luke's Hospital. He has supervised the application of roentgen rays to the socket of the right eye. She had received five applications at weekly intervals when she was unable to return to the city for further treatment.

The patient returned for examination, Nov. 15, 1923; she was holding her usual weight on a liberal diet. There was no sign of local recurrence or metastases of the growth; the urine was sugar free and the blood sugar was normal. The blood pressure was 200 systolic and 100 diastolic, and the same physical signs of cholecystitis were present.

COMMENT

It might be well to emphasize the effect of the pain on the condition of patients suffering from hyperpiesia and from diabetes. As was pointed out, this patient's blood pressure would rise from 50 to 100 points on the occasion of severe ocular pain, and automatically fall on the cessation. In caring for a hyperpietic patient it is important to watch such rises in blood pressure and give such anodynes as are necessary to relieve the pain. In this way one may prevent the rupture of a diseased cerebral or retinal vessel.

Furthermore, the effect of pain on the power of the organism to metabolize sugar was unmistakable. In the presence of pain, diet did not decrease the content of the sugar in the blood or the urine or the amount of the acid bodies in the urine. Immediately on the relief of pain, the diabetic problem became a simple one. The effect of the operative procedure had none of the ill results that we had feared and that had been the reason for delaying the step that was important to carry out promptly.

In the treatment of glaucoma, it has been our experience that patients are usually first seen by physicians not especially trained in ophthalmology, who do not realize that useful vision can be lost in glaucoma by a few hours' delay. Immediate operation frequently offers the only hope of recovery of useful vision, and in some cases enucleation must be performed early to prevent metastasis of an intra-ocular tumor.

This case shows the importance of having innocent specimens of tissue examined by a pathologist. In the case of this enucleated globe, the cause of the glaucoma seemed clear; the patient had high blood pressure and diabetes, which were the cause of retinal hemorrhages. Even though this was a case of monocular glaucoma, the diagnosis of an intra-ocular growth was considered improbable, as it seemed possible to explain all the symptoms and signs by the diagnosis of intra-ocular hemorrhage, glaucoma and secondary cataract. By the aid of the pathologist, a diagnosis of sarcoma was made, and the patient was given the opportunity to have applications of the roentgen ray. This type of new growth is very malignant, metastasizing very early. In this case the sarcomatous cells had not passed through the vortex veins into Tenon's space, but this does not mean that they had not metastasized already. It is important to institute roentgen-ray treatment immediately, since it may possibly prevent local recurrence.

9 East Forty-Sixth Street.

BILATERAL SACRO-ILIAC OBLITERATION

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It has long been known that a certain amount of motion in the pelvic articulations is normal, and that an increased mobility of these articulations occurs physiologically during pregnancy. Little attention was given to this, however, until the publication of the article on pelvic articulations by Goldthwaite and Osgood in May, 1905. Albee, in 1909, stated that the sacro-iliac articulations are true joints having all the common joint structures, and are therefore subject to the same diseases and injuries as other joints. In view of these facts, it is remarkable that injuries and inflammation of these joints are not more frequently observed. This may be due to the fact that such diagnosis requires very careful roentgen-ray examination and interpretation.

This study was made on a series of ex-service men with so-called spine cases, and included very careful histories, thorough clinical and roentgen-ray examinations, and careful search to rule out infections of the teeth and tonsils, gonorrheal infections, and previous typhoid. Clinically and roentgenologically, striking joint changes are apparent in this group, which elicit surprise when they are compared with other spinal joint lesions of known etiology and pathology. The group included 400 cases, of which twelve have been selected. In each, the history pointed to the onset of the malady as dating back approximately for a period of from three to four years, and the patients were between the ages of 22 and 30 years.

SYMPTOMS

The general subjective symptoms were a dull, aching pain in the lower part of the back, and inability to lie down without great discomfort. The pain was more marked on exertion, although there was a little pain on walking. This pain did not disappear when lying down, and standing increased it. It was localized in the sacro-iliac or hip joint or referred to the posterior portion of the leg and anterior portion of the foot. The onset was gradual, and it slowly increased, causing marked discomfort. The patients were unable to take long steps, and had great discomfort in climbing stairs or when rising from a sitting posture. This discomfort was much increased, and was usually very painful when the patient had to sit on a hard bottom chair.

The most common symptom was limitation of motion. The patient was usually inclined to stand in a stooped position, with the knees slightly flexed. The normal lumbar curve was obliterated, resulting in a condition of "flat spine." In other words, the usual lordosis may be absent. The hands were frequently used for support when rising from a sitting position. There was at times marked atrophy of the muscles of the buttocks. Pain was increased with motions of the spine or sacro-iliac joints, and by applying pressure in the region of the great sciatic nerve. There was marked spasticity of the muscles of the lower part of the back. Forward, backward and lateral motions were all decreased. Limitation of forward bending in the lumbosacral region was most common. There was at times local tenderness on palpation in the lumbosacral or sacro-iliac joint region. Hyperextension and rotation of the pelvis were usually absent, but were present in some cases. Straight leg raising was limited, and slight psoas contraction was found in some cases. It was observed that, as the disease progressed, the pain and local tenderness decreased. The patients in this group who complained of the vague and more or less indefinite symptoms, which can best be described under the general term "low back pain," were all subjected to a thorough roentgen-ray study, the stereoscopic pair being relied on for the evidence of pathologic changes. The results of these roentgenologic investigations have been described by Blaine.[1] Briefly, the findings are as follows:

ROENTGENOLOGIC FEATURES

The roentgen-ray manifestations represent gross intrinsic joint changes. These changes are found to have occurred in the entire series of cases included in this presentation, and the joint alterations are definitely established. It is not easy to demonstrate the various changes early in the disease, largely on account of the difficulty from a technical standpoint of clearly projecting these joints. Several of these patients were roentgenographed previously and passed on as presenting no pathologic changes, which indicates that this condition is not readily recognized. The lesion sometimes may be a unilateral involvement, but we find the condition to be bilateral in the greater percentage of cases. The shadows reveal a loss of the sharply defined shadows of a normal articular edge, and there is seen a haziness of the joint outline as well as a decrease in the amount of interarticular structures; as the disease progresses, these changes are followed later by evidence of erosion of the articular surfaces, and a consequent joint obliteration is the usual sequence. Thus, we find a synarthrosis in which fixation of the sacrum with the pelvic bones occurs, forming a rigid pelvis. All these features are well established by roentgen-ray shadows. An early stage of the condition presents the same roentgen-ray features as does any low-grade inflammatory joint change. In all of the sacro-iliac obliterations of this series, there is little or no evidence of hypertrophic bone change. In the final stage, the hazy detail of the articular surfaces seen in the earlier stages of activity is replaced by more sharply defined shadows of the fused bones, which usually represent a healed condition of a formerly inflamed joint in which a loss of cartilage has taken place.

1. Blaine, E. S.: Am. J. Roentgenol. 10: 189 (March) 1923.

TREATMENT IN GENERAL

The focus of infection should be carefully investigated. Physiotherapy is most satisfactory if used in the early stages. The results are very gratifying if it is used in the following order: The modalities are: Heat from a high candle power incandescent lamp or from a hood lined with numerous light globes. This penetrating heat is effective in relieving muscular spasm and pain by increasing the circulation through the dilatation of the capillaries. The lower part of the back is exposed to radiant light, and then followed either with high frequency, diathermy or induction currents, which can be used alternately or on successive days. Following this, manual massage and mechanical vibration are applied.

Massage in the form of pétrissage and effleurage is made in the direction of the lymphatic flow, and should be directed both upward and downward. Manipulation consisting of passive and resistive exercises gives some results and should be selected according to the indication of each individual case. To overcome muscle spasm, these movements are executed in a direction opposite to the contracted muscles. When spasms disappear, corrective movements are undertaken. These should be carried out gently and within the limit of pain. One must also guard against fatigue. While the patient is under treatment, the back is protected by means of adhesive strapping, by a removable plaster spica or by an Osgood sacro-iliac belt. For most patients, adhesive strapping will suffice. In chronic cases, forcible manipulation under anesthesia may be necessary, or immobilization by a removable plaster spica or sacro-iliac belt, followed by physiotherapy, as previously outlined, as these modalities have a tendency to soften the organized scar tissue and make it more pliable, creating a local artificial hyperemia.

A canvas belt with a spring back extension is applied to inhibit motion partially. This brace is worn at night, while in the daytime it is removed during treatment and when the patient exercises. Exercise should be encouraged to the limit of pain. This treatment should be carried out daily for from four to six months, and during this period the support, as stated above, should be worn and gradually discarded. Immobilization over prolonged periods of time is not advisable, as it has a tendency to produce ankylosis, resulting in a rigid pelvis, which is very disabling.

CONCLUSIONS

During the study of a number of sacro-iliac cases it was found that a certain percentage showed a complete ankylosis or synarthrosis of the sacro-iliac points. The clinical symptoms as recorded are a dull, aching pain, inability to lie down without great discomfort, rigidity of the muscles of the back, spasms of the muscles of the back, and atrophy of the gluteal fold, with obliteration of the normal lumbar curve and marked limitation of forward bending. The roentgen-ray findings are distinct erosion or alteration of the articular surfaces, and decreased joint space (sometimes reaching the stage of total obliteration with resulting ankylosis). These clinical symptoms and roentgenologic findings give evidence of a low-grade inflammatory process for which no causation can be proved.

Windermere Hotel.

Heliotherapy.—Heliotherapy gives the most favorable results in cases of peritonitis (tuberculous), but this . . . requires the most careful supervision.—Rollier.

A STUDY OF NEOCINCHOPHEN IN THE TREATMENT OF RHEUMATIC FEVER *

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In recent years, several favorable reports have appeared on the use of cinchophen (phenylcinchoninic acid) and its derivatives in the treatment of arthritis. Originally recommended as uric acid eliminants in gout, these drugs were found to be effectual in the relief of the polyarthritis and pyrexia of rheumatic fever. One of the derivatives, the ethyl ester of *para*-methylphenylcinchoninic acid,[1] besides having antirheumatic properties equivalent to those of phenylcinchoninic acid, has the additional advantage of being tasteless and nonirritating to the stomach.

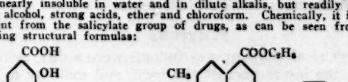
In a study of rheumatic fever, carried on for several years, we had already made detailed records of the effect of salicyl derivatives on certain symptoms of this disease, and therefore were in a position to compare the newer drug with the older. This communication is a report of these studies made during the last three years.

REVIEW OF LITERATURE

Heller,[2] Bendix,[3] Klemperer [4] and Jokl [5] treated various types of arthritis with cinchophen or its derivatives. The three latter observers found neocinchophen beneficial in the treatment of the acute arthritis of rheumatic fever. Small doses were administered—rarely more than 3 gm. a day for from two to seven days—so that many of the patients were only partly relieved; and it was frequently necessary to change the medication to the salicylates. However, they found the drug less toxic than salicylates, and Jokl concluded that not only was this drug a good substitute for the salicylates in many cases of acute polyarthritis, but also it was to be preferred in those cases in which one hesitates to use the latter; i. e., when rheumatic fever is complicated by nephritis, heart disease or gastro-intestinal disturbance. In this country, Hanzlik and his co-workers,[6] and Chace, Myers and Killian [7] reported good antiarthritic results with neocinchophen and found it less toxic than the salicylates. Hanzlik obtained complete relief in three rheumatic fever patients with from 10 to 16 gm. of the drug, but thought it less efficient when

* From the Hospital of the Rockefeller Institute for Medical Research.
* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of four charts. The complete article appears in the authors' reprints.

1. The ethyl ester of *para*-methylphenylcinchoninic acid (ethyl-6-methyl-2-phenyl-quinolin-4-carboxylate) is marketed under the names novatophan, tolysin and neocinchophen, the latter being that adopted by the Council on Pharmacy and Chemistry of the American Medical Association. It is a yellowish white, odorless, and practically tasteless crystalline powder. It is nearly insoluble in water and in dilute alkalis, but readily soluble in hot alcohol, strong acids, ether and chloroform. Chemically, it is very different from the salicylate group of drugs, as can be seen from the following structural formulas:



Salicylic acid Neocinchophen

2. Heller, E.: Berl. klin. Wchnschr. **47**: 526, 1911.
3. Bendix, H.: Therap. d. Gegenw. **53**: 301, 1912.
4. Klemperer, G.: Therap. d. Gegenw. **54**: 257, 1913.
5. Jokl, R. H.: Prag. med. Wchnschr. **38**: 465, 1913.
6. Hanzlik, P. J.; Scott, R.-W.; Weidenthal, C. M., and Fetterman, Joseph: Cinchophen, Neocinchophen and Novaspirin in Rheumatic Fever, J. A. M. A. **76**: 1728 (July 18) 1921.
7. Chace, A. F.; Myers, V. C., and Killian, J. A.: Treatment of Arthritis, J. A. M. A. **77**: 1230 (Oct. 15) 1921.

compared with the salicylates in dosage of gram of drug per kilogram of body weight of patient. Chace, Myers and Killian, on the other hand, felt that neocinchophen was therapeutically effective in relatively smaller dosage. Barbour, Lozinsky and Clements [8] found it an efficient, nontoxic drug in the treatment of the arthritis of rheumatic fever. Their patients were observed from eight to eighteen days, and received a total of from 10 to 50 gm. of the drug. From experiments with dogs, Barbour and Lozinsky [9] came to the conclusion that this drug exhibited a peculiar pharmacologic behavior in that the maximum limit of absorption from the intestine coincided essentially with the full therapeutic dose. If this theory, derived from work on healthy dogs, were applicable in the clinic, one might be led to believe that from any quantity of the drug administered by mouth only subtoxic and efficient therapeutic quantities would be absorbed by the patient; and hence less care need be exercised in prescribing neocinchophen than compounds of salicylic acid.

METHOD OF ADMINISTRATION

In those patients with rheumatic fever in whom polyarthritis was the outstanding manifestation, the following was the usual procedure: If the symptoms continued to increase in severity and the patient manifested no tendency to spontaneous recovery during an observation period of from two to five days, neocinchophen was administered by mouth at the rate of 1 gm. (15 grains) an hour. Careful record was kept of favorable therapeutic effect and also of toxic symptoms due to the drug, such as tinnitus aurium, vertigo, abdominal distress, anorexia, nausea and vomiting; also of the degree of diaphoresis. At the first appearance of toxicity, the drug was discontinued for that day. If sufficient therapeutic effect had not been obtained by the following day, the drug was again administered in the same manner. It was occasionally necessary to follow the same procedure for three or four days; but usually by the end of two days the optimum therapeutic and subtoxic dose could be ascertained.

In order to determine a possible irritating action of the drug on the kidneys, we examined for albumin, casts and cellular elements each specimen of urine voided during the first forty-eight hours, and the morning specimen for several succeeding days.

As the initial dosage was found to vary considerably, e. g., from 0.1 to 0.3 gm. per kilogram of body weight of the patient, we feel that a procedure such as outlined above is the safest one to follow when it is desired to bring the patient as quickly as possible under the influence of the drug. When this object had been obtained, the dose was reduced to about two thirds or one half of that of the first day. In the early part of the work, the drug was continued in this smaller dose for from ten to fifteen days, and then abruptly discontinued; later, we felt that it was better to diminish the dosage more gradually, and if the patient showed evidence of a relapse to increase it.

In general, our patients received a much larger total quantity of this drug and were observed longer than those reported by other authors. The following signs were looked on as evidence of efficient therapeutic effect: return of normal temperature and pulse rate, disappearance of the arthritis, and of leukocytosis. The patients were also observed closely for the appearance of a relapse after the drug was discontinued. With the patients who had predominant cardiac involvement and little or no arthritis, no attempt was made to push the drug to the limit of tolerance; these patients were observed for antipyretic effect, fall in pulse rate, change in cardiac signs, diminution of leukocytosis, change in weight curve, and for general improvement.

TREATMENT AND RESULTS

Twenty patients with rheumatic fever were treated with neocinchophen. The occurrence of relapses in several of them furnished us an opportunity for comparing the effect of neocinchophen and of the salicylates in the same person. For convenience in description, we have divided the patients into two groups, depending on the presence or absence of joint involvement. Sixteen had severe polyarthritis together with signs of some degree of cardiac complication; the four remaining patients, all children, had severe cardiac disease and little, if any, arthritis. A complete summary of therapeutic results and toxic effects is given in Table 1. The sixteen cases in which there was severe polyarthritis may be thus divided:

1. Seven cases: Prompt disappearance of symptoms and signs; no relapse when the drug was discontinued. (See report and Chart 1 of Case 1.)

2. Five cases: Similar immediate clinical results as in Group 1, but with definite relapses when the drug was discontinued. (See report and Chart 2 of Case 10.) In three of these cases the relapse was treated with acetylsalicylic acid.

3. Three cases in which the drug was not completely effective, even though given in large doses. One patient (see report and Chart 3 of Case 13) responded fairly satisfactorily at first but seemed to acquire a tolerance to the beneficial action of the drug and developed a definite relapse while receiving 8 gm. a day. The substitution of acetylsalicylic acid therapy resulted in distinct amelioration of the arthritis. Another patient, although relieved of arthritis, continued to have a high leukocytosis and was unable to gain in weight. Acetylsalicylic acid was substituted, with marked improvement in symptoms. A third received neocinchophen for twenty-six days; the leukocytosis, rapid pulse, and a mild arthritis persisted; acetylsalicylic acid was substituted without much better effect.

4. One case: A patient treated for twenty-two days with sodium salicylate, the arthritis having disappeared the first few days of treatment; a relapse of the arthritis occurred three days after the salicylates were discontinued, and was relieved by neocinchophen as effectively as by sodium salicylate. In this particular patient, neocinchophen seemed more toxic to the kidneys than sodium salicylate. (See report and Chart 4 of Case 16.)

Viewed from the standpoint of an efficient and satisfactory therapeutic agent in these sixteen cases of rheumatic arthritis, eight, or one half, showed permanent beneficial effect. The eight remaining patients were either not completely relieved of their symptoms or were only temporarily benefited. Two of these patients had relapses so mild that no further medication was considered necessary. In the other six it was necessary to resume or change the drug therapy; salicylates were substituted; hence these furnished suitable cases for a comparison of the two drugs. It is only fair to note that one of them, Patient 15, had no more relief from acetylsalicylic acid than from neocinchophen; she belonged to that class of patients that shows only partial therapeutic response to any of the known antirheumatic remedies. In two additional patients, Patients 12 and 16, making a total of eight, it also was possible

8. Barbour, H. G.; Lozinsky, E., and Clements, C.: Am. J. M. Sc. 165: 708 (May) 1923.
9. Barbour, H. G., and Lozinsky, E.: J. Lab. & Clin. Med. 8: 217 (Jan.) 1923.

to compare the drugs. Five had severe arthritis at the time of administration of each drug, and Table 2 shows a comparison of the effect on the arthritis. The first two were treated with neocinchophen; when it was discontinued, a relapse occurred which was treated with acetylsalicylic acid; the third had two attacks of rheumatic fever with an intervening interval of three years; the first attack was treated wtih sodium salicylate, the second with neocinchophen. The fourth, while receiving 8 gm. of neocinchophen a day, had a relapse and was treated with acetylsalicylic acid; the fifth received sodium salicylate and had a relapse three days after it was discontinued, which relapse was treated with neocinchophen.

It appears, from a comparison of these five patients, that severe symptoms of arthritis respond with about equal rapidity to intensive administration of the two drugs, but that the milder residual symptoms persist somewhat longer following neocinchophen. In three of these cases, however, the salicylate was given at a later period in the disease, at a time when the arthritis was not so severe and the patients were as a rule in better condition to respond to treatment.

The four patients with signs of active rheumatic carditis and little or no joint involvement present a somewhat different problem than those with severe polyarthritis. In three, the antipyretic effect was marked; the patients became less restless and more comfortable, and shortly showed a gain in weight, regarded by us as evidence of improvement. In two there was a definite decrease in pulse rate following the diminution in fever; in the third, who had pericarditis,

TABLE 1.—*Results of Treatment*

Case No.	Sex;* Age; Weight	Previous Attacks; Age 1st Attack	Day of Disease Treatment Began	Drug	Amount of Drug: 1st 24 Hrs.†	Amount of Drug: Total	Therapeutic Effect	Toxic Effect: Clinical Symptoms	Toxic Effect: Urine
GROUP 1.—RHEUMATIC FEVER; SEVERE POLYARTHRITIS; TREATED WITH NEOCINCHOPHEN WITHOUT RELAPSE									
1	♂ 21 yrs. 66 kg.	None	6th	Neocinchophen	12 gm. (0.18)	71 gm. in 16 days‡	Arthritis and fever disappeared within 2 days; bradycardia throughout administration (Chart 1)	Moderate vertigo 1st 2 days	Ft. tr. albumin and occasional hyaline cast 1st wk. of administration
2	♀ 23 yrs. 54 kg.	One 22 yrs.	5th	Neocinchophen	15 gm. (0.3)	238 gm. in 28 days‡	Arthritis, fever and tachycardia disappeared within 2 days	None	Occasional tr. albumin before and during administration; few r. b. c. 2d day
3	♀ 22 yrs. 56 kg.	One 20 yrs.	18th	Neocinchophen	7 gm. (0.13)	96 gm. in 35 days‡	Arthritis, fever and tachycardia disappeared within 2 days; subnormal temp. (96.4) 1st night; bradycardia 1st 12 days	None	Tr. albumin before; disappeared during administration; renal epith. cells, occasional cast, 1st 12 days
4	♂ 19 yrs. 63 kg.	None	9th	Neocinchophen	12 gm. (0.2)	282 gm. in 32 days	Fever disappeared 3d day; arthritis, 4th day; subnormal temp. (96.4) 1st night; bradycardia 1st week	Anorexia	Tr. albumin; casts before; no increase; disappeared 3d day
5	♀ 30 yrs. 59 kg.	One 14 yrs.	22d	Neocinchophen	7 gm. (0.12)	211 gm. in 53 days	Fever and tachycardia disappeared within 2 days; arthritis within 6 days	Nausea after 7 gm.; headache 2d day	Menstruating
6	♂ 33 yrs. 64 kg.	None	39th	Neocinchophen	8 gm. (0.12)	156 gm. in 30 days‡	Mild fever disappeared 1st day; pulse normal before and after; mild arthritis persisted 9 days	None	Occasional cast; slight increase in albumin, 1st 2 days; normal after 3d day
7	♂ 17 yrs. 48 kg.	None	16th	Neocinchophen	11 gm. (0.22)	221 gm. in 56 days‡	Arthritis, fever and tachycardia disappeared 3d day	None	Tr. albumin during administration only
GROUP 2.—RHEUMATIC FEVER; SEVERE POLYARTHRITIS; RELAPSE AFTER NEOCINCHOPHEN WAS DISCONTINUED									
8	♀ 30 yrs. 60 kg.	None	48th	Neocinchophen	12 gm. (0.2)	71 gm. in 11 days	Fever and tachycardia and severe arthritis disappeared within 12 hrs.; slight stiffness persisted; 2 mild relapses; recovery without medication	Slight tinnitus, headache, nausea, vomit, diarrhea 1st 3 days	Tr. albumin before; increased 1st 2 days; disappeared 6th day; occasional cast, 5th to 10th day
9	♂ 22 yrs. 59 kg.	One 19 yrs.	5th	Neocinchophen	8 gm. (0.12)	121 gm. in 24 days	Arthritis disappeared within 2 days; fever, within 3 days; bradycardia for 6 days; mild relapse; recovery without medication	None	Tr. albumin disappeared 2d day; occasional cast and r. b. c. during administration
10	♀ 17 yrs. 40 kg.	None	17th	Neocinchophen	17 gm. (0.42)	111 gm. in 17 days	Fever disappeared 1st day; less effect on pulse; severe arthritis disappeared within 48 hrs.; mild symptoms persisted 7 days longer (Chart 2); severe relapse 3 days after drug was discontinued; treated with acetylsalicylic acid	None	Tr. albumin, occasional cast before; disappeared during administration
			30th	Acetylsalicylic acid	12 gm. (0.3)	247 gm. in 60 days‡	Temp. and pulse response not so good as with neocinchophen (Chart 2); severe arthritis disappeared within 48 hrs.; mild symptoms persisted 6 days longer	Nausea, vomit 1st day; tinnitus, deafness 2d to 5th day	Tr. albumin, renal epith. cells and a few casts, 1st few days
11	♂ 21 yrs. 58 kg.	None	29th	Neocinchophen	13 gm. (0.11)	114 gm. in 14 days	Severe arthritis disappeared within 2 days; mild symptoms for 8 more days; Temp. and pulse normal within 3 days; severe relapse 2 days after drug stopped; treated with acetylsalicylic acid	Slight nausea 2d day	Tr. albumin before; no increase; many renal epith. cells, occasional r. b. c. and hyaline casts 1st few days
			45th	Acetylsalicylic acid	10 gm. (0.16)	177 gm. in 44 days‡	Fever and tachycardia disappeared within 24 hours; arthritis within 3 days; mild relapse after acetylsalicylic acid was discontinued; treated with the ethyl ester of phenyicinchoninic acid	Anorexia	Tr. albumin, few casts and r. b. c., 1st 2 days of administration; disappeared
12	♂ 12 yrs. 33 kg.	Two 5 yrs.	4th	Sodium salicylate	4 gm. (0.12)	21 gm. in 4 days	Arthritis, fever and tachycardia disappeared within 2 days	Pretibial edema on 4th day	Marked increase in albumin; disappeared when drug was stopped; no casts (?)
	15 yrs. 44 kg.	....	5th	Neocinchophen	12 gm. (0.27)	121 gm. in 34 days	Fever and tachycardia disappeared within 24 hrs.; arthritis within 48 hrs.; bradycardia for 2 wks.; on 31st day, when drug was being stopped, patient showed signs of beginning relapse; acetylsalicylic acid was substituted, the 1st day 5 gm. and succeeding days 4 gm., with good results; toxic symptoms from acetylsalicylic acid no more severe than from neocinchophen	Slight vertigo	No increase in albumin; many renal epith. cells and cellular casts

TABLE 1.—*Results of Treatment.—(Continued)*

Case No.	Sex;* Age; Weight	Previous Attacks; Age 1st Attack	Day of Disease Treatment Began	Drug	Amount of Drug: 1st 24 Hrs.†	Amount of Drug: Total	Therapeutic Effect	Toxic Effect: Clinical Symptoms	Toxic Effect: Urine
				GROUP 3.—RHEUMATIC FEVER; SEVERE POLYARTHRITIS; UNSATISFACTORY RESULTS WITH NEOCINCHOPHEN					
13	♂ 52 yrs. 56 kg.	One 50 yrs.	19th	Neocinchophen	9 gm. (0.16)	130 gm. in 16 days	Severe arthritis disappeared within 2 days; moderate arthritis persisted; mild fever and tachycardia persisted; severe relapse on 16th day while receiving 8 gm. a day (Chart 3)	Vertigo, headache, nausea 1st day	Ft. tr. albumin before; no increase; casts and renal epith. cells
			35th	Acetylsalicylic acid	11 gm. (0.2)	440 gm. in 118 days‡	Fever and severe arthritis disappeared within 2 days; mild arthritis persisted for several months; tachycardia disappeared slowly	None	Renal epith. cells and increase in albumin, 1st 2 days; disappeared during administration; occasional cast for several weeks
14	♂ 19 yrs. 51 kg.	None	8th	Neocinchophen	12 gm. (0.23)	116 gm. in 14 days	Severe arthritis, fever and tachycardia disappeared within 2 days; mild arthritis persisted 2 days longer; because of high leukocytosis and loss in weight acetylsalicylic acid was substituted with definite improvement	None	Tr. albumin before; no increase; disappeared during administration; no casts
			19th	Acetylsalicylic acid	10 gm. (0.2)	183 gm. in 28 days‡	No fever or arthritis.....	Tinnitus, vertigo, and slight deafness 1st day	Tr. albumin during administration; casts and renal epith. cells, 1st 3 days only
15	♀ 25 yrs. 85 kg.	None	17th	Neocinchophen	11 gm. (0.2)	170 gm. in 26 days	Fever and severe arthritis disappeared within 2 days; mild arthritis and tachycardia persisted throughout medication; because of mild arthritis and leukocytosis, acetylsalicylic acid was substituted	None	Tr. albumin, occasional cast and r. b. c. before; no increase; renal epith. cells, 1st few days
			43d	Acetylsalicylic acid	4 gm. (0.07)	177 gm. in 52 days	No fever; mild arthritis persisted; no appreciable benefit	None	Tr. albumin and occasional cast; disappeared during administration
				GROUP 4.—RHEUMATIC FEVER; SEVERE POLYARTHRITIS; SALICYLATE TREATED, WITH RELAPSE, TREATED WITH NEOCINCHOPHEN					
16	♀ 42 yrs. 56 kg.	Two 34 yrs	8th	Sodium salicylate	10 gm. (0.18)	115 gm. in 22 days	Severe arthritis disappeared within 5 hrs.; mild arthritis persisted 4 days; fever and tachycardia disappeared within 2 days; severe relapse 3d day after drug stopped (Chart 4)	Tinnitus, vertigo, nausea vomit	Tr. albumin before; no increase, disappeared during administration; casts, r. b. c. and renal epith. cells, 1st 2 days only
			32d	Neocinchophen	12 gm. (0.21)	110 gm. in 16 days‡	Arthritis, fever and tachycardia disappeared within 16 hrs.; subnormal temp. (96.5) 1st night; because of renal irritation, small doses of acetylsalicylic acid substituted	Nausea, vomit, and abdominal distress; tinnitus and vertigo milder than with salicylates	Ft. tr. albumin, day before; increased, 1st 2 days; ft. tr. persisted throughout administration; very many casts, renal epith. cells and occasional r. b. c. persisting throughout administration
				GROUP 5.—RHEUMATIC FEVER; SEVERE CARDIAC INVOLVEMENT; LITTLE OR NO ARTHRITIS					
17	♂ 7 yrs. 22 kg.	Three ? 6 yrs.	68th	Neocinchophen	5 gm. (0.2)	122 gm. in 48 days‡	Fever disappeared within 3 days; tachycardia gradually reduced; subnormal temp. (96.4) 1st night; cardiac murmurs not affected (Chart 5)	None	Tr. albumin 1st 2 days only; no casts
18	♂ 11 yrs. 30 kg.	One ?	37th	Neocinchophen	6 gm. (0.2)	106 gm. in 75 days‡	Definite lowering of temp.; mild fever persisted; subnormal temp. (95) 1st night; no effect on pulse; cardiac murmurs not affected	Nausea and vomit on 2d day	Tr. albumin during administration; few casts 1st 2 days only
19	♂ 14 yrs. 49 kg.	One 11 yrs.	32d	Neocinchophen	6 gm. (0.12)	21 gm. in 3 days	Three days' administration had little effect; later, under combined acetylsalicylic acid and digitalis administration, temp. and pulse rate fell; definite improvement	None	None
20	♂ 9 yrs.(?) 27 kg.	Six 5 yrs.	6th	Neocinchophen	6 gm. (0.2)	217 gm. in 58 days‡	Temp. not normal until 15th day; slight rise thereafter; pulse not materially affected (Chart 6)	None	Ft. tr. albumin before; slight increase during administration; few casts on 3d day only
			72d	Neocinchophen	5 gm. (0.17)	174 gm. in 45 days‡	Temp. normal 4th day; remained; pulse brought down from 140 to previous rate of 110-120	Vague abdominal distress 1st night	None
			130th	Acetylsalicylic acid	4 gm. (0.13)	112 gm. in 28 days	Temp. normal within 24 hrs.; remained; pulse again returned to previous level	None	None

* In this column, ♂ indicates male; ♀, female.
† The figure in parentheses indicates the number of grams per kilogram of body weight.
‡ Drug gradually reduced before discontinuance.

no beneficial effect on the pulse rate was noted. In the fourth patient, the drug was given for three days without benefit; later, however, acetylsalicylic acid was given, with an effect similar to that seen in the three patients taking neocinchophen.

Because of the suggestions often quoted that the salicylates in therapeutic doses have a depressing effect on the heart in rheumatic fever, and that cinchophen derivatives are free from this effect, we have paid special attention to the cardiac manifestations in all our patients. Without attempting to discuss fully at this time the question of cardiac complications in rheumatic fever, we may mention that in this hospital the results of frequent electrocardiograms have shown that myocardial disturbance occurred in at least 90 per cent. of patients;[10] and, moreover, these disturbances were noted in patients under the influence of the salicylates or neocinchophen as well as in those not under the influence of these drugs. These observations make it very difficult to attribute any myocardial disturbance occurring during acute rheumatic fever to the action of the drugs. On the other hand, we have felt that clinically the slower pulse rate usually seen following the antipyretic action of these drugs was beneficial.

Not infrequently in those patients with little evidence of heart involvement there occurred a bradycardia with

10. Cohn, A. E., and Swift, H. F.: J. Exper. Med. **39**: 1 (Jan.) 1924.

the administration of the drug. The heart rate became from 55 to 60 a minute; in several instances there was an occasional rate of 50 a minute. Usually with continued administration the rate gradually increased to normal or above normal. Bradycardia was observed in six patients. In Case 1 (Chart 1) the bradycardia

TABLE 2.—*Comparative Effect of Neocinchophen and Salicylates on Recurrent Arthritis in the Same Persons*

	Neocinchophen		Salicylates	
Case No.	Relief of Severe Arthritis; Marked Improvement	Complete Disappearance of Arthritis	Relief of Severe Arthritis; Marked Improvement	Complete Disappearance of Arthritis
10	2 days	9 days	2 days	8 days
11	2 days	10 days	24 hours	3 days
12	24 hours	2 days	24 hours	2 days
13	2 days	Mild arthritis persisted for 16 days, when it became severe while patient received 8 gm. a day	2 days	Mild arthritis persisted for several months
18	10 hours	16 hours	5 hours	4 days

continued throughout the entire period of administration. As would be expected, the effect of abruptly slowing the heart rate is not encountered in patients with severe cardiac inflammation; here the slowing goes hand in hand with the recovery of the patient.

A lowering of temperature below normal may occur during the first twelve hours of the full effect of the drug (Chart 4). In several instances the temperature for a few hours remained as low as 95 F. (rectal). A similar, though less marked manifestation, is occasionally encountered in salicylate therapy.

It is noteworthy that full therapeutic doses of neither of the drugs had any effect on the cutaneous manifestations in two of our rheumatic fever patients with a complicating erythema multiforme.

TOXICITY

It was evident early in the study that symptoms and signs of toxicity similar in character to those of salicylism occurred with full therapeutic doses of neocinchophen. As we followed the same plan previously used in administering the salicylates; i. e., large doses hourly during the first twenty-four hours until the appearance of toxic symptoms or of a definite therapeutic response, it seemed only fair to apply the same general standard in judging the relative toxicity of the two drugs. Table 3 shows the number of times the various symptoms were encountered in the twenty patients, and the evidence of renal irritation as detected by routine urine examination in nineteen patients; the second part of the table shows a comparison of the toxic action of neocinchophen and salicylate in eight patients who received the two drugs at different periods.

Ten patients had no clinical symptoms of toxicity, but five of them had more or less renal irritation. Ten patients had clinical toxic symptoms; eight of these had also evidence of renal irritation; one showed a decrease in albuminuria and cylindruria after taking therapeutic doses of the drug; and in the remaining patient it was impossible to study the effect of the drug on the kidney because she was menstruating. Thus it seems that patients with clinical toxic symptoms were more likely to show evidence of renal irritation than those without such symptoms. Freedom from these symptoms, however, did not insure freedom from albuminuria or cylindruria. Only five of the twenty patients were absolutely free from some evidence of toxicity.

An interesting feature of the renal irritation was the appearance of or the increase in albuminuria and cylindruria for from two to five days after the beginning of treatment, followed by a disappearance of these pathologic elements with the continued administration of the drug. We have also seen a similar reaction following the exhibition of the salicylates; indeed, this feature was slightly more frequent in the eight patients who received both drugs during their period of salicylate therapy.

In four patients, on the other hand, there was a continued albuminuria during the entire period of neocinchophen therapy; one of them, Patient 16, had casts persistently, two a temporary increase, and one none. In Patient 16 the evidence of renal irritation was so marked that it was necessary to discontinue the drug.

With both neocinchophen and salicylates there often occurred during the first few days of drug administration a remarkable number of small, round, renal epithelial cells, which diminished in number when the drug was continued. In one patient, Patient 16, there also occurred many cellular casts. The occurrence of leukocytes and red blood cells was never very marked, and practically always temporary. Marked parellelism

TABLE 3.—*Summary of Toxic Symptoms*

	Incidence of Toxic Symptoms in the 20 Patients Taking Neocinchophen	Comparison of Toxic Symptoms in 8 Patients Taking Neocinchophen and Salicylates at Different Periods (6 Acetylsalicylic Acid, 2 Sodium Salicylate)	
		Neocinchophen	Sodium Salicylate or Acetylsalicylic Acid
Clinical:			
Tinnitus aurium	2	1	3
Deafness	0	0	2
Headache	3	1	0
Vertigo	4	3	2
Nausea	6	3	2
Vomiting	3	1	2
Abdominal distress	1	1	0
Pretibial edema	0	0	1
Urine:			
Albuminuria:			
(*a*) Increased and persisted during administration	4	1	2
(*b*) Increased, then disappeared during administration	4	0	4
(*c*) Decreased during administration	5	2	1
(*d*) No change during administration	8	5	1
Microscopic elements:			
Casts:			
(*a*) Increased and persisted during administration	4	3	0
(*b*) Appeared, then disappeared during administration	7	1	6
(*c*) Disappeared during administration	2	1	0
(*d*) No change during administration	8	3	2
Red blood cells:			
(*a*) Increased and persisted during administration	2	1	0
(*b*) Appeared, then disappeared during administration	2	1	2
Renal epithelial cells:			
(*a*) Appeared and persisted during administration	3	3	0
(*b*) Appeared, then disappeared during administration	3	2	4

between the severity of clinical and renal signs of toxicity could not be detected. It is noteworthy, however, that two of the patients showing the most marked symptoms, including nausea and vomiting, had the most persistent albuminuria.

An interesting comparison of the two drugs was afforded by a normal subject (a physician) who was known to have an idiosyncrasy for salicylates; an hour

after receiving 2 gm. of neocinchophen, he had a well marked urticaria over the hands and forearms; and two hours later the urine showed a faint trace of albumin and a few hyaline casts. It seemed, therefore, that he had also a hypersensitiveness to neocinchophen. We have not found any records similar to this case; but it is not surprising that such an example should have been encountered.

In the urine of another normal volunteer subject who had received 8 gm. of neocinchophen in eight hours there occurred great numbers of round, renal epithelial cells, without subjective symptoms of toxicity.

To one patient who had fully recovered from rheumatic fever, 20 gm. of neocinchophen was given in one day without any urinary or clinical evidence of toxicity. As this patient had previously shown nausea and headacute after 7 gm. given while she was suffering from acute polyarthritis and fever, it is suggestive that evidence of toxicity may be more easily elicited in febrile than in normal persons.

COMMENT

In studying a new therapeutic agent in rheumatic fever, it is natural and logical to apply the standards both of cure and of toxicity that have been employed in judging the efficacy of the salicylates, drugs fairly satisfactorily used for more than fifty years. It is also necessary to understand the nature of the disease against which we are directing our therapeusis. It is well known that the clinical condition called rheumatic fever has many manifestations in addition to arthritis and fever; in fact, these two symptoms are not infrequently absent or are of minor importance. While many acute cases are seen, there are also many others with a relapsing subacute or chronic course. Our experience has taught us that usually the symptoms of arthritis and pyrexia can be successfully controlled with easily tolerated doses of the salicylates, but that other signs of persisting infection, such as leukocytosis, loss of weight, low grade fever, subcutaneous nodules, and signs of cardiac or brain involvement, are less easily influenced by the drug. In many cases, withdrawal of the salicylates is followed shortly by renewed arthritis and fever. Finally, cases are occasionally encountered in which the tolerance to the drug is so low, or the manifestations are so stubborn, that the salicylates are of relatively little value in relieving the distressing symptoms.

As therapeutic effect is measured almost entirely in terms of clinical improvement, this variation in the course of the disease makes difficult an absolute comparison of two different drugs. There are also differences in a patient's capacity to respond to drug therapy at different times. The balance in the factors of infection and resistance is probably never in the same position in a given individual. At one time his own defensive mechanism, and his capacity for repairing the injury due to an invading virus, are greater than at other times. During such periods of increased resistance, it probably requires less of a drug to bring about either symptomatic or absolute cure. On the other hand, a chronic disease with attending histopathologic changes may have placed the virus beyond the reach of chemical remedies or have induced cellular infiltration and scars that are but little influenced by drugs.

In a similar manner, the tissues may vary in their susceptibility to the toxic action of a drug. Parenchymatous cells having been damaged by infectious intoxication or by fever are doubtless more liable to poisoning by toxic chemical substances than are healthy cells. An example of this variation in susceptibility to drug intoxication is the common finding of an increased albuminuria and cylindruria for a few days following the institution of antirheumatic drug therapy, with later a disappearance of these pathologic elements from the urine, even though the drug is continued.

We feel that, in previous reports of the therapeutic action of neocinchophen, some of these factors have been neglected. Available case reports show that most of the patients were not followed over sufficient periods to determine the permanence of therapeutic result; and as a rule there has been no attempt to judge therapeutic efficiency from any other points of view than antiarthritic and antipyretic effects.

The clinical antisymptomatic results obtained in most of our cases were the same as those reported by others. They were no better than we have obtained with the salicylates, and in half of the patients were only temporary. The clinical symptoms in three patients could not be completely relieved with full therapeutic doses of neocinchophen; but in two of them the substitution of salicylates for neocinchophen afforded alleviation. It is only fair to record that we have encountered one patient who apparently responded better to neocinchophen than to the salicylates. So far as the action of two drugs could be compared in the same patients, it seemed to us that the salicylates were slightly more effective.

In order to obtain these good clinical results with neocinchophen, it has been necessary to give the drug in large amounts; doses that were often at the same time mildly toxic. Let it be understood that our object in giving these large amounts was not to produce toxic symptoms but therapeutic response; in order to obtain this response as quickly as with salicylates, it was necessary to give a mildly toxic dose to at least three fourths of our patients. The toxic symptoms, in general, were less severe than those obtained with salicylates, and the signs of renal irritation usually disappeared with continued application of the drug. This apparent acquiring of a tolerance to neocinchophen was a distinct feature in several of the cases. But it cannot be relied on to occur, as was shown by the persistence of abnormal urines in six of the patients.

This experience has convinced us that, in using this drug in sufficiently large doses to control symptoms of rheumatic fever, it is necessary to watch for evidence of toxicity in the same manner as is done in administering salicylates. We do not believe that Barbour and Lozinsky's experiments with dogs can be used as a guide to dosage in febrile patients, and consider it unsafe to rely on the selective power of the human intestine to absorb only enough of the drug to relieve the patient of pain and fever.

The production of a marked bradycardia in several of our patients was noteworthy, and might conceivably lead to considerable anxiety if it increased or persisted over any considerable period.

It was necessary to administer somewhat larger doses of neocinchophen than of salicylates to obtain similar clinical results. This agrees with the finding of Hanzlik, and brings up the question of the relative cost of obtaining comparable therapeutic effects with the two drugs. If there were positive proof that the newer drug possessed marked superiority in eliminating the causative agent, or if it gave only similar antiarthritic effect, but was absolutely free from toxicity, the cost would be relatively unimportant. As far as we can

determine, however, the two drugs act in much the same manner as antipyretic and antiphlogistic agents. The salicylates give satisfactory symptomatic results in most cases of rheumatic fever. Neocinchophen, on the other hand, is useful in some instances in which the salicylates fail to relieve the symptoms completely or the patient is so susceptible to their toxic effects that sufficient therapeutic doses cannot be given. With our present knowledge it seems to us that either drug may replace the other; and, moreover, that occasions not infrequently arise in which such substitution may be of decided therapeutic value.

SUMMARY AND CONCLUSIONS

1. Neocinchophen, the ethyl ester of *para*-methylphenylcinchoninic acid, acted as an antiarthritic and antipyretic agent in rheumatic fever in a manner similar to the salicylates.

2. Among sixteen cases of polyarthritis, in three neocinchophen failed to relieve the arthritis completely; two of these were later relieved by salicylates. In five there was a relapse of arthritis when the drug was discontinued; in eight, the relief was permanent. Among four cases of rheumatic carditis with fever, the antipyretic effect of large doses of neocinchophen was followed by distinct improvement of other symptoms.

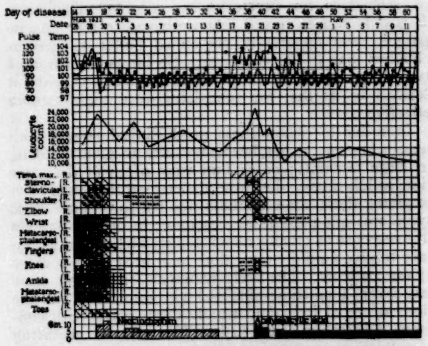


Chart 2.—Action of neocinchophen and acetylsalicylic acid in Case 10. In the charts, these symbols are employed:

⟋	pain	····	slight swelling
⟍	tenderness	—	marked swelling
|	redness	o	heat
		×××	stiffness

3. In order to obtain these beneficial results, a large dosage was required; and, accompanying these large doses, toxic symptoms and signs of renal irritation similar to those seen with the salicylates but milder in character were encountered in three fourths of the patients. Usually these signs of renal irritation disappeared with continued administration of the drug; but in six instances they persisted until the drug was stopped.

4. One must therefore watch for the appearance of toxic symptoms in administering neocinchophen in the same manner as in giving the salicylates.

5. In our experience, salicylates seemed slightly more effective in rheumatic fever while, on the other hand, neocinchophen was the less toxic of the two drugs.

REPORT OF CASES

A case report and chart is shown typical of each of the various types of reactions secured with neocinchophen in those patients having severe polyarthritis; also case reports and charts of the effect of neocinchophen in two patients having the cardiac type of rheumatic fever.

CASE 1 (Chart 1).—L. V., a man, aged 21, was admitted, Jan. 18, 1923, on the second day of his first attack of rheumatic fever, with fever, rapid pulse, severe, rapidly spreading polyarthritis, precordial tenderness and apical and pulmonic systolic murmurs. On the sixth day of his disease, neocinchophen therapy was instituted, beginning late in the afternoon so that during the first twenty-four hours the patient received 12 gm. (180 grains). The temperature and pulse rate became normal, and polyarthritis disappeared within forty-eight hours. On the fourth day of medication, he felt quite well. Evidence of mild drug toxicity was present the first two days of administration. The dose was gradually reduced, and then discontinued after sixteen days. The leukocytosis gradually disappeared. The temperature and pulse remained normal, and there was no return of the arthritis. The heart murmurs, however, persisted. One day after the discontinuance of medication, the patient was allowed to get up, and after a course of graded exercise he was discharged, Feb. 15, 1923, the thirtieth day of the disease. Since then he has been quite well.

This case illustrates the ideal response to antirheumatic medication—prompt relief of symptoms, followed by an uneventful recovery.

CASE 10 (Chart 2).—B. R., a girl, aged 17 years, was admitted, March 26, 1922, on the fourteenth day of her first attack of rheumatic fever, with high fever, rapid pulse, severe, migratory polyarthritis, high leukocytosis, a faint apical systolic murmur, marked prolongation of the p-r interval in the electrocardiogram, gallop rhythm, and extrasystoles. Administration of neocinchophen was begun on the afternoon of March 29, 8 gm. being given on this day, and 17 gm. within a period of twenty-four hours. Subsequently a dosage of 6 gm. a day was maintained. No symptoms of drug toxicity occurred, and a slight albuminuria and cylindruria, which had been present before administration, disappeared. An aortic systolic murmur appeared, April 4. April 14, in the absence of symptoms other than persistent leukocytosis, medication was abruptly discontinued. Three days later a relapse occurred with fever, tachycardia, polyarthritis and reappearance of the gallop rhythm. On the afternoon of the fourth day of the relapse, 9 gm. of acetylsalicylic acid was given, a total of 12 gm. being given within the first twenty-four hours. The temperature fell promptly to normal with a rebound on one day; the tachycardia receded more slowly. The arthritis improved, but did not disappear for six days. Acetylsalicylic acid was continued at 5 gm. a day for two weeks, and then at 4 gm. a day for almost a month. May 24, a tonsillectomy and adenoidectomy were performed. Uneventful recovery ensued, with disappearance of the aortic murmur. The patient was discharged, June 24, 1922; she gradually improved, and, after a period of two months' convalescence, was able to return to work.

This case illustrates the ability of neocinchophen to hold in abeyance the symptoms of the disease during a period when the infection is not yet terminated, and the tendency for relapses to occur as soon as the drug is withdrawn.

CASE 13 (Chart 3).—J. L., a man, aged 52, was admitted, March 5, 1922, on the seventeenth day of his second attack of rheumatic fever, with pyrexia, rapid pulse, severe polyarthritis, and faint systolic apical murmur. Three days after admission, the patient was given neocinchophen, 8 gm. the first day and 9 gm. within the first twenty-four hours; relief from polyarthritis occurred within forty-eight hours, the only remaining evidence of joint involvement being some stiffness. There was a fall in temperature and pulse rate, but these did not reach normal. Neocinchophen was administered for a period of sixteen days at an average rate of 8 gm. a day. The patient's tolerance for the drug seemed to increase, as 8 gm. given the first day caused considerable evidence of toxicity, while later this and even larger doses gave no symptoms of toxicity. In spite of being under the influence of large doses of the drug, the patient developed a relapse

characterized by rapid pulse, fever, lengthening of conduction time, and development of severe polyarthritis. Changing the antirheumatic remedy to acetylsalicylic acid resulted in prompt relief. After eleven days of acetylsalicylic acid administration, during which time there occurred no arthritis, and the temperature and pulse remained normal, nodal rhythm developed. Owing to this fact, the dosage of acetylsalicylic acid was diminished, and there occurred a mild polyarthritis and slight rise in temperature. The dosage of the drug was again increased, with relief of symptoms except for slight stiffness in the shoulders. May 2, the ninth week of his stay in the hospital, the patient had a slight rise in temperature and an attack of paroxysmal tachycardia. Following this there was observed for a few days lengthening of the p-r interval and a certain amount of precordial pain. May 24, the twelfth week after admission, the tonsils were removed. At the time of tonsillectomy the patient was receiving 4 gm. of acetylsalicylic acid a day. Following tonsillectomy there occurred a relapse characterized by rapid pulse, elevation of temperature, polyarthritis, and prolonged conduction time. The dosage of acetylsalicylic acid was increased, and these symptoms disappeared. Beginning June 6, the dosage of acetylsalicylic acid was decreased gradually, and discontinued, June 12. Three days later, symptoms appeared in one joint and the temperature rose slowly to a subfebrile level. This was interpreted as a mild relapse, and acetylsalicylic acid administration was resumed and continued for four more weeks. There were no subsequent relapses. The patient was discharged, July 25, 1922. Since his discharge he has been quite well.

Of the patients receiving neocinchophen this one showed the poorest therapeutic response.

CASE 16 (Chart 4).—E. L., a woman, aged 42, admitted, Oct. 30, 1922, had had two previous attacks of rheumatic fever: one in 1914, of four months' duration, the second beginning in April, 1922. It is questionable whether she ever recovered from the second attack, whether the present illness was not a late relapse, for she had two bouts of fever and polyarthritis in April and May, and from June until October 24 she had had frequent mild, transient joint pains. Pain in the right hip, knee, and foot began rather suddenly, October 25. For convenience this has been considered the first day of the present attack. Her physician administered sodium salicylate, 0.6 gm., four times a day for two days, but the arthritis became worse. On admission there was high fever, rapid pulse, severe polyarthritis, and an apical systolic murmur. During the first two days in the hospital, the arthritis spread rapidly, and on the third day, November 1, 10 gm. of sodium salicylate was administered with a prompt return of temperature and pulse to normal, and amelioration of the joint symptoms; but mild arthritis persisted for four days. Symptoms of salicylate intoxication on the first day of medication were mild tinnitus, vertigo, nausea and, on one occasion, vomiting. There was no increase in albuminuria, but occasional casts and many renal epithelial cells appeared during the first two days of administration. November 13, the thirteenth day of salicylate therapy, she began to have stiffness in the shoulders. The dosage was gradually increased from 4 to 7 gm. a day, and the joint symptoms disappeared. This amount was given for a period of one week, during which time the patient had mild tinnitus and vertigo. November 22, sodium salicylate was discontinued. Two days later a relapse began, and during the next five days there was a rapid increase in pulse rate, rise in temperature, and development of severe polyarthritis. Frequent extrasystoles occurred, and conduction time was prolonged. Response was quick to neocinchophen; arthritis disappeared within sixteen hours, and the temperature and pulse became subnormal within twelve hours; 12 gm. was given during the first twenty-four hours. This gave toxic symptoms of nausea, vomiting, abdominal distress, tinnitus and vertigo. The tinnitus and vertigo were milder than with salicylates. Nausea and vomiting were present for only two days. With continued neocinchophen administration, many renal cells, cellular casts and occasional red blood cells appeared in the urine, and a trace of albumin continued. On this account, neocinchophen was gradually reduced, beginning December 11. By December 17, the casts and albumin had disappeared from the urine. Two days after stopping neocinchophen, mild arthritic pains were present in two of the joints, but disappeared following 2 gm. of acetylsalicylic acid a day. Acetylsalicylic acid was continued until January 15. The patient was discharged Jan. 25, 1923. She has been observed since that time, and there has been no recurrence of the arthritis.

CASE 17 (Chart 5).—G. H., a boy, aged 7 years, admitted, Feb. 13, 1922, had had repeated mild sore throats since the age of 2. Seven months before admission, sore throat was followed by pericarditis with effusion. Four and one-half months later there was another sore throat, with fever and tachycardia. Tonsillectomy was performed, December 28, 1921. Immediately after this he had an attack of migratory polyarthritis with fever, which cleared up promptly under salicylate therapy. February 12, the day before admission, the fever and tachycardia recurred, together with a mild cough. On admission there was fever, rapid pulse, acute bronchitis, acute rhinitis, and apical systolic and aortic systolic and diastolic murmurs. There were no rheumatic nodules. Although daily intermittent fever, tachycardia and mild transitory arthritis continued, the patient did not appear very toxic. February 26, neocinchophen therapy was instituted. No attempt was made to push the drug to the point

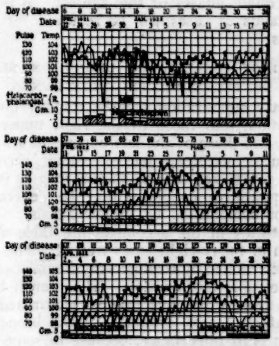


Chart 6.—Action of neocinchophen and acetylsalicylic acid in Case 20.

of intoxication. The temperature did not rise above normal after February 28. The pulse and leukocyte curves gradually fell; the weight curve gradually rose. A coincident clinical improvement was appreciable. Neocinchophen was continued for about one month, reduced, and gradually discontinued. No relapse occurred. The patient was discharged, April 15, 1922. During a twenty month period of observation since his discharge, no attacks have occurred, and he has continued to grow and to gain in weight.

CASE 20 (Chart 6).—M. B., a boy, aged 9 years, admitted, Dec. 22, 1921, had six attacks of fever and tachycardia over a period of four years, but only with the sixth attack did he have joint involvement. It is probable that all of these attacks have been relapses of the initial condition, as after the second a diagnosis of "heart weakness" was made. The present attack began five days before admission with sore throat, fever and transitory arthritis in two joints. On admission there was high fever, rapid pulse rate, pallor, enlarged heart, and loud systolic and diastolic murmurs over the entire precordium. There were no rheumatic nodules. The effect of neocinchophen administration on the temperature and pulse is shown in the first section of Chart 6. With the fall in temperature, the child's general condition improved. Neocinchophen was continued at the rate of 4 gm. a day until the sixtieth day of the disease, when it was reduced and discontinued, as shown in the second section of the chart. The relapse which immediately followed was also treated

with neocinchophen. The second relapse was treated with acetylsalicylic acid. The last eleven days of neocinchophen medication and the first six of acetylsalicylic acid are shown in the third section of the chart. Acetylsalicylic acid was continued at the rate of 3 gm. a day for four weeks. No relapse followed its discontinuance. The patient was discharged, June 3, 1922. Two and one-half months later he suffered another attack of fever and tachycardia of several weeks' duration. There was no joint involvement. He was treated at his home. Since that time (one year) he has been well enough to attend school.

Sixty-Sixth Street and Avenue A.

THE BRONCHOSCOPIC TREATMENT OF SUPPURATIVE DISEASES OF THE LUNGS *

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The purpose of this paper is to present the records of thirty-eight cases of suppuration of the lungs treated by bronchoscopic methods, with observations and inferences on certain phases of this subject. It is realized that thousands of cases will be required for ultimate conclusions.

BEARING OF LOCALITY OF LESION ON RESULTS OF BRONCHOSCOPIC TREATMENT

Pulmonary suppuration may be roughly divided, as to localization, into those of the right upper, middle and lower, and those of the left upper and lower lobes. In addition to this broad, but convenient, classification it must be recognized that an abscess may be interlobar or, the suppurative condition may be generalized or multiple, or complicated by bronchiectasis.

The statistics in the accompanying table show the localization in thirty-eight cases treated. The localization was determined by roentgen-ray findings confirmed by bronchoscopic examination. The branch bronchus or bronchi from which pus exuded determined in each case the affected area drained. Exact bronchoscopic localization is of importance, because in some cases as the subjective symptoms are ameliorated the roentgen-ray findings do not seem to justify the improvement, owing to the fact that the affected area tends to fill, in healing, with fibrous tissue which still shows as a shadow on the plate and which may never roentgenographically clear up, or which may take months in doing so. I believe that eventually these areas do undergo some degree of resolution, and certainly this is true of peribronchial thickening, which usually accompanies these suppurations. Only after many more cases have been studied and followed, however, can this point be stated with any degree of clarity.

In localizing suppurating areas, the roentgenologist has furnished us very exact knowledge as to location of the lesion. The bronchoscopist is handicapped in establishing the limits of the area or areas involved because he is dependent on the bronchus or bronchi which show pathologic changes either in the condition of the mucous membrane or in the altered character of their discharge. The roentgen ray shows, especially after the insufflation of powdered bismuth or the injection of bismuth suspension, almost the exact extent of the lesion.

Meager as our data are, relatively, they seem to show that in the vast majority of our cases the suppurative foci are situated in the right or left lower lobes. The suppuration involved the right lower lobe alone in 30 per cent. of the cases; the middle and lower lobes on the right side, in 37 per cent. The left lower lobe alone was involved in 16 per cent. of the cases; the upper lobes, right, 13 per cent., and left, 5 per cent. The two lower lobes, right and left, were involved in this series in more than 45 per cent. of the cases. If the middle lobe on the right side were included as a lower lobe, as I think it should be, this percentage would be much higher.

An attempt was made to analyze the situation of the abscess from the roentgen-ray studies. Fourteen cases were very evidently situated around the hilum of the right or left lung. Four were peripheral, being divided between both right and left sides, and eight involved the lung lobes in such a way that they could not be classified other than as a general lobar infection.

Theoretically, an abscess situated near the hilum on the right or left side should have better natural drainage than one situated near the periphery of either lung. Continuous free drainage has been the constant aim in all of these cases, and an area lying centrally should lend itself more readily to this than areas drained by a bronchus of more length. But here, again, nothing definite can be established, as the vast majority of our cases have been central, and of two patients in whom the abscess was situated peripherally, one has been cured and the other, who had an abscess with cavity formation in the middle lobe peripherally situated and what was an apparent secondary infection of the lower lobe situated near the hilum, was given bronchoscopic treatment four times and then went to a resort at the shore. After a lapse of three months his physician reports him cured, but this case is not included in the table because no roentgen-ray studies have been made, and I have not been closely enough associated with him to report in detail on his present status and, therefore, am reluctant to include him under cured cases.

The only acute case of a general bronchial suppuration seen in the clinic without any apparent localization became, after an interval of one month and without treatment, a definite abscess of the right upper lobe.

In a general way one must assume that, for the present at least, multiple abscessed conditions with long-standing bronchiectasis do not respond well to bronchoscopic or any other form of treatment.

A single case was treated which seems to be an exception to this rule. This was in a child, aged 7 years. He has now been under treatment for twelve months. The suppurating area is gradually localizing at the left lower base, and improvement in his general physical condition is marked. One year ago, the area involved included the right lower and middle lobes and the lower lobe on the left side. At present the right side below the carina is free from pus. The roentgen-ray findings confirm this improvement, although, as elsewhere herein noted, fibrous tissue obscures somewhat the graphic evidence of improvement.

Interlobar and Pleural Suppuration.—In one case, which did not come to bronchoscopy, the primary focus of infection was in the pleura. The empyema later discharged between the middle and upper lobes of the right side, and the fortunate rupture into a bronchus established a route by which bronchoscopy could attack the suppurating area. The pleural cavity cannot be drained by oral bronchoscopy, though even in these cases endoscopy, in the form of intercostal pleuroscopy, is often helpful.

* From the Bronchoscopic Clinic, Jefferson Hospital.

IMPORTANCE OF DRAINAGE AS A FACTOR IN THE RESULTS OF BRONCHOSCOPIC TREATMENT

The time has not yet arrived when the relative importance of drainage and of local medication as factors in the undoubted, often marvelous, benefits that have followed bronchoscopic treatment can be determined. Free drainage is always fundamental for suppuration anywhere.

DURATION OF DISEASE IN ITS BEARING ON RESULTS OF BRONCHOSCOPIC TREATMENT

Judging by the results of treatment, and irrespective of localization, it would seem that the earlier these cases come to treatment after the development of symptoms, the better chance they have of improvement or cure. It is important that the general practitioner's attention be called to the fact that the lower lobes are more often involved, and especially the right side. Too often expectant treatment is instituted with insufficient diagnosis, with a hope that natural causes will bring about

Result of Treatment

Case No.	Sex*	Age	Duration of Disease	Probable Cause	Symptoms	Localization of Lesion	Amount of Sputum: Before	Amount of Sputum: After	Fetor	Number of Bronchoscopies	Present Status
1	♀	26	23 yrs.	Measles	Productive cough	R. L. L., Pul. Sup.	Large	None	Present	33	Cured
2	♂	23	21 yrs.	Measles ? (unknown)	R. L. L. productive cough	R. L. L., Pul. Abse.	Large	Dec.	Present	16	Improved
3	♀	34	19 mos.	Severe pharyngitis and laryngitis	Dry cough, later productive	Bronchiectasis, Lt.	Large	Dec. ½	Present	11	Unimproved
4	♂	7	7 yrs.	Unknown	Cough at 2 weeks of age, later productive	R. L. L., L. L. L.	Large	Dec.	Absent	40	Improved
5	♀	21	2 mos.	Tonsillectomy	Productive cough	R. L. L., Pul. Abse.	About ¼ cup	Absent	Slight	16	Cured
6	♀	49	8½ yrs.	Tooth extraction, foreign body	Malaise, cough, later productive	R. L. L., Pul. Abse.	(Great deal	Dec.	Present	5	Unimproved
7	♂	12	8 mos.	Tonsillectomy	Pain post. right chest, followed by productive cough	R. L. L., Pul. Abse.	Large	¼ cup	Slight	9	Improved
8	♂	16	15 mos.	Tonsillectomy	Productive cough	R. L. L.	Large	Dec.	Present	12	Improved
9	♂	40	23 days	Unknown	Fever, chills, hemoptysis 17 days later	L. U. L., Pul. Abse.	Large	Dec.	Present	9	Improved
10	♀	27	11 mos.	Cholecystotomy	Productive cough	R. U. L.	Large	None	Present	9	Markedly improved
11	♀	23	6 wks.	Tonsillectomy	Fever, cough, expectoration	R. L. L., Pul. Abse.	Large	None	Present	6	Cured
12	♀	38	3 yrs.	Childbirth (ether)	Productive cough	L. L. L., Pul. Abse.	1,000 c.c.	250 c.c.	Present	6	Improved
13	♂	46	8 yrs.	Unknown	Productive cough	L. L. L., Pul. Abse.	40 oz.	27 oz.	Present	8	Improved
14	♂	54	.....	Unknown	Cancer of mediastinum	.....	.....	.....	.....	..	For diagnosis only
15	♂	27	5 yrs.	Pneumonia	Productive cough	L. L. L., R. L. L., Pul. Abse.	1½ cup daily	Absent	Absent	10	Improved
16	♂	30	6 yrs.	Tuberculosis; ether 3 years ago	Productive cough, fever, night sweats, loss of weight	R. U. L.	.....	.....	.....	8	Improved
17	♂	18	2 yrs.	Pneumonia	Productive cough	R. middle lower	.....	.....	Present	5	Excellent condition
18	♂	11	3 mos.	Foreign body right bronchus	Productive cough	R. L. L., R. M. L.	.....	.....	Present	6	Unimproved
19	♀	37	4 mos.	Tonsillectomy	Productive cough 1 wk. after tonsillectomy	R. U. L.	Large	Absent	Present	8	Cured
20	♂	42	1 mo.	Foreign body	Pain right chest, cough, expectoration	R. L. L.	.....	.....	.....	..	No change
21	♂	23	2 yrs.	Postoperative	Pain left shoulder, cough, blood-tinged expectoration	R. U. L.	.....	.....	.....	..	For diagnosis only
22	♂	46	44 yrs.	.....	Productive cough	L. L. L., multiple	100 c.c. per day	.....	.....	..	For diagnosis only
23	♂	43	.....	.....	.....	R. U. L.	12 oz. a day	.....	.....	..	For diagnosis only
24	♀	6	.....	Pneumonia	Productive cough and hemoptysis	R. L. L.	.....	.....	.....	..	For diagnosis only
25	♀	20	9 mos.	Tooth extraction	Productive cough and hemoptysis	R. L. L.	.....	.....	.....	..	For diagnosis only
26	♂	16	11 yrs.	Whooping cough and pneumonia	Productive cough	Diffuse sup. bronchitis	1 oz. a day	.....	.....	..	For diagnosis only
27	♂	4	2 yrs.	Whooping cough	Productive cough	R. L. L., L. L. L.	.....	.....	.....	..	For diagnosis only
28	♀	21	6 wks.	Pneumonia	Productive cough	L. L. L.	.....	.....	Present	12	Marked improvement
29	♀	44	25 yrs.	Abscess, cervical external neck evacuated	Productive cough, cyanosis, dyspnea	L. U. L., L. L. L., bronchiectasis	.....	.....	.....	5	Improvement
30	♂	7	1 yr.	Foreign body	Cough, fever, anorexia	R. L. L., R. M. L.	None	.....	.....	5	Improved
31	♂	27	3 mos.	Tonsillectomy	Productive cough, loss of weight	L. L. L.	1 cup a day	.....	.....	..	Not treated
32	♂	34	.....	.....	Productive cough	R. M. L.,	.....	.....	.....	12	Not treated
33	♂	40	4 mos.	Foreign body	Productive cough	R. L. L., multiple L. U. L.	Large	Dec.	Present	12	Improved
34	♂	50	1 mo.	Foreign body	Productive cough; pain right side chest	R. M. L.	.....	.....	.....	2	Cured
35	♀	12½	2 yrs.	Pneumonia	Productive cough	L. L. L., bronchiectasis	.....	.....	.....	12	Improved
36	♀	30	7 wks.	Tonsillectomy	Productive cough	R. U. L.	Large	None	Intense	..	Cured
37	♂	14	7 yrs.	Pneumonia at 7 years	Productive cough	Shadow at hilum; bronchiectasis R. L. & M. L.	Large	None	Present	7	Cured

* In this column, ♂ indicates male; ♀, female.

That drainage is of equal or greater importance in many cases seems probable. This applies especially to localized foci. In the diffused superficial conditions, such as are seen in purulent bronchitis, applications to suppurating surfaces are, I think, highly efficient. Even in these cases peroral bronchoscopic drainage helps the overloaded cilia to rid the bronchi of stagnating pus.

a cure, when roentgen-ray studies and bronchoscopic measures might be the means of establishing a positive diagnosis by which a means to treatment would be indicated.

MEDICATION USED

In referring to medicaments used, it is necessary to disclaim any intention, even by implication, to attribute specific effects to any or all of the medicaments used. I am, myself, by no means convinced that the medicament is of as great importance as drainage, as elsewhere herein mentioned. I have used for irrigation a special solution containing trinitrophenol, 2 grains (0.13 gm.); compound solution of iodin, 1 fluidram (3.75 c.c), and physiologic sodium chlorid solution, 1 pint (475 c.c.)

As a vehicle for medicaments, vegetable oils have been found very unsatisfactory. Only mineral oils (liquid petrolatum) are used. These oily preparations are instilled either after irrigation or after aspiration without irrigation.

TECHNIC OF TREATMENT

Having localized as far as possible, by physical signs and roentgen-ray examination, an abscess or bronchiectatic condition, a diagnostic bronchoscopy is performed. The condition of the mucous membrane of the tracheobronchial tree is noted as the bronchoscope is inserted. Two of the most important points to be carefully noted are: (1) the bronchus or bronchi from which suppurative products are exuding, and (2) the presence of any factor which would constrict the lumen of the bronchus and thus inhibit free drainage.

At this examination, uncontaminated specimens of the secretion are taken either by swab through the bronchoscope, or, if the quantity is sufficient and not too viscid, the collection is made by aspiration into a specially devised tube which can be immediately sealed and sent to the laboratory.

From these specimens, uncontaminated by oral infection, autogenous vaccines are made in each case. These vaccines are given twice a week. Fresh vaccines are made up at two-month intervals, because we have found that the predominating bacteria content changes in patients under treatment. This change may be due in part to the treatment.

These patients are carefully instructed to aid, by posture, the drainage of the affected area.

At the second bronchoscopic treatment, the affected areas are thoroughly aspirated, either wtih the Jackson aspirating bronchoscope, or, in the case of the small bronchi whose lumen will not take the bronchoscope, a finer tube inserted through the bronchoscope.

The cleansing with the special solution mentioned completes the treatment in some cases. Seven-day intervals are usually allowed between bronchoscopies.

In cleansing, large areas are never treated at one time, and the flooding of healthy lung tissue is carefully avoided. The tributary branch bronchus is attacked separately, excluding the main trunk, and with especially devised apparatus. The lumen of the return flow tube is always greater than that of the intake. A washing action is thus secured without flooding, and at the end of the treatment very little fluid is retained. This guards against the scattering of infection to normal areas.

The lumen of a constricted bronchus is dilated at each bronchoscopy. Obstructing granulations sometimes require removal, but usually granulations disappear after purulent accumulations are prevented by bronchoscopic aspiration.

Bronchoscopy is done without anesthesia or a sedative in children, and without general anesthesia in adults.

OBSERVATIONS ON TREATMENT

Whether or not the infection is borne by the blood stream or by aspiration is a point of great importance from the standpoint of treatment, because, if blood borne, it would seem that bronchoscopic treatment should be started only after the fortunate rupture of the abscess into a bronchus. In other words, bronchoscopic procedures should be directed toward continued free drainage after it has been established; while, if aspiration is the common etiologic factor, the bronchoscope should be used earlier to insure drainage through a bronchus which is blocked and involved primarily in the infection. Treatment based on our conception of the morbid process may determine our justification for an early or later bronchoscopy. Mechanically, it is quite feasible to penetrate from a normal bronchus into an isolated suppurating focus, but so far no case in which this seemed advisable has presented itself. Drainage, however, has been reestablished in cases in which a once established drainage has been obliterated.

RESULTS OF BRONCHOSCOPIC TREATMENT

Of the first thirteen cases, 25 per cent. were cured; 41.6 per cent. were improved, and 33.3 per cent. were unimproved. These cases had been under continuous treatment and formed a series from which conclusions could be drawn. Some of the other cases were for diagnostic bronchoscopy only; others have been under treatment an insufficient length of time.

The cured cases were pronounced cured only after prolonged cessation of symptoms and complete roentgen-ray studies. The improved cases have shown marked amelioration of symptoms and, in most instances, the patients have been able to resume occupations. The improved cases include those on which we are still working, with prospects of an ultimate cure. The unimproved class was chiefly made up of patients with extensive bronchiectasis. Tuberculosis was excluded in all the cases by the usual methods, with, in some instances, the assistance of a diagnostic bronchoscopy.

CONCLUSIONS

1. These records, though limited in number, show localization at the bases in the majority of cases; proximal suppuration occurs more often than peripheral.

2. Bronchoscopy is the logical means by which to facilitate better drainage and to aid medical treatment. Free drainage is always fundamental for suppuration anywhere.

3. Early diagnosis and treatment are advantageous.

4. Patients with lung suppuration cannot all be cured by bronchoscopic drainage and treatment. A certain percentage certainly can be. A large percentage can be improved. The remainder, with few exceptions, are made happier through the alleviation of symptoms which have made them thoroughly wretched both day and night.

5. The improvement in subjective symptoms is apparently more rapid than the roentgen-ray findings would indicate. This is due to the shadows cast by fibrous tissue formed in the affected area in the healing process.

6. No mortality has been encountered, so far, at the Bronchoscopic Clinic; this shows how safe a procedure bronchoscopy is, when performed by men properly trained in this work.

7. Patients are willing to continue the treatments as long as we deem it advisable because of the lessening of cough, foul expectoration and improvement. We have yet to see a patient who declined further treatment because of any dread of a repetition of bronchoscopic treatment.

255 South Sixteenth Street.

EXPLOSIBILITY OF ETHYLENE MIXTURES *

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At the time that I first reported on ethylene as an anesthetic, I pointed out that ethylene mixed with air would explode in the presence of a free flame or thermocautery, just as would ether, and that this consideration would limit its use. Since that time there has arisen a widespread feeling that there existed a great danger of its exploding spontaneously or owing to a static spark. This feeling seems to have been encouraged by certain advertising literature. That there might be some definite information on this subject, a number of experiments were done in the department of pharmacology at the University of Toronto.

There are four places in which ethylene might conceivably explode: (1) while compressed in the cylinder; (2) after emerging from the cylinder; (3) from the mixing chamber to the patient, while mixed with oxygen; (4) when allowed to escape into the air through the spill valve in the face piece.

EXPLOSIBILITY WHILE COMPRESSED

Oswald says, in his standard work, that ethylene can be compressed into cylinders under high pressures without danger of explosion such as is found with acetylene, which, he states, cannot be compressed pure without great danger of explosion. Manufacturers consider that there is no danger of the cylinders exploding, as they ship them quite freely by express or freight.

EXPLOSIBILITY OF PURE ETHYLENE

Many experiments made in the laboratory have shown that pure ethylene, without the addition of air or oxygen, cannot be made to explode.

EXPLOSIBILITY WHEN MIXED WITH OXYGEN

We now come to a much more possible source of explosion, and that is the ethylene-oxygen mixture, which is delivered to the patient, and which fills the mixing chamber and the delivery tube. This mixture will in practice vary from 10 to 25 per cent. of oxygen, the remainder being ethylene. Such a mixture as this cannot be exploded by means of an electric spark. The mixture that we found would explode contained a minimum of from 40 to 45 per cent. of oxygen. Any mixtures having a higher percentage of oxygen would explode with violence, increasing directly with the oxygen percentage, the maximum violence being reached with three volumes of oxygen to one of ethylene. Mixtures containing a higher amount than 25 per cent. of oxygen might conceivably be used for short times, either when the anesthesia became too deep, or as the patient required inflating or recovered.

* Read before the Congress of Anaesthetists, Chicago, Oct. 21, 1923.

What, then, is the possibility of an electric spark's being formed, and the ignition of the mixture in the delivery tube and mask?

A dry gas passing under pressure through a narrow surface or tube may lead to the tube's becoming charged negatively or positively. If, then, a conductor or an oppositely charged body is brought into juxtaposition, a spark varying in length with the difference of potential of the two bodies may be produced. In metal tubes such as are in a gas machine, the outside of the tube would be charged, and any spark occurring could not explode a mixture within, unless when the face piece was lifted and the body with the other potential was approximated to its inner surface. Such static sparks are rarely of the duration or intensity of those used in testing the explosibility in the experiments reported in the tables, and are hardly likely to produce an explosion.

Further, how many of us in using the nitrous oxid-oxygen mixture have not many times allowed the mixture to flow through ether or over gauze saturated with ether, in order to obtain deeper anesthesia? Did it ever occur to us that we were using a mixture of great explosibility—quite equal to that of an ethylene mixture? We have shown by experiment that any nitrous oxid-oxygen mixture, or even pure nitrous oxid passing through an ether chamber turned fully on, forms a violently explosive mixture, and that this explosibility continued until the ether was half shut off, when no explosion could be obtained.

This procedure of gas-ether combination is being used in hundreds of cases daily, yet how many times do we hear of explosion from the so-called static spark? The danger could be readily overcome in any case by connecting the cylinder or mask to the water pipe or other ground with a flexible metallic conductor.

TABLE 1.—*Experiments with Ethylene, Oxygen and Air*

Oxygen Per Cent.	Ethylene Per Cent.	Explosion
0	100	No
5	90	No
20	80	No
35	65	No
45	55	Yes
50	50	Yes

Air Per Cent.	Ethylene Per Cent.	Explosion
5	95	No
20	80	No
35	65	No
45	55	No
50	50	No
75	25	No
90	10	Yes
95	5	Yes
97	3	No

TABLE 2.—*Experiments with Ether, Nitrous Oxid and Oxygen*

Ether	Nitrous Oxid Per Cent.	Oxygen Per Cent.	Explosion
Full	80	20	Yes
Full	90	10	Yes
Full	100	0	Yes
Three fourths	80	20	Yes
Three fourths	100	0	Yes
One half	80	20	No
One half	100	0	Yes
One fourth	80	20	No

EXPLOSIBILITY WHEN ALLOWED TO ESCAPE

The fourth possibility of the explosibility of an ethylene mixture is that the expired ethylene, coming out of the spill valve in the mask, might in time form a

mixture with air which would be explosible. Our experiments have shown that a mixture of from 5 to 10 per cent. of ethylene in air forms an explosive mixture. How long, then, would it require an operating room to become full of such a mixture? Supposing the normal ventilating of a patient to be 8,000 c.c. a minute, and the average operating room to contain 2,700 cubic feet (15 by 15 by 12), it would require somewhat in excess of six hours' continuous anesthesia to form a mixture of 5 per cent., which is the minimum explosive mixture, and this without the slightest room ventilation. Most operating rooms are ventilated from the top; and, as ethylene is slightly lighter than air, it would gradually rise and be drawn off, thus rendering the possibility of an explosion from this source as being only in the remote realms of possibility.

THE TRUE AND THE FALSE PRESYSTOLIC MURMURS

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The importance commonly attached to the presystolic murmur, so called, in the diagnosis of cardiac abnormality justifies further discussion as to its causation. In two previous papers I [1] have offered evidence that the crescendo murmur ending in a sharp first sound is in reality early systolic, and due to ventricular systole rather than being presystolic in time and auricular in causation. In a review of one of these papers and that of Henderson,[2] Pepper [3] writes: "This theory is attractive and highly plausible; it does not, however, seem to fit in very satisfactorily with the well known disappearance of the mitral stenotic murmur which occurs with the onset of auricular fibrillation." It is my purpose here to answer Dr. Pepper's objection, to offer some further data concerning the mechanism of the crescendo murmur, and to reemphasize that there are two murmurs, one the so-called presytolic and the other properly termed presystolic, if one elects that terminology.

RELATION TO AURICULAR FIBRILLATION

Sir James Mackenzie is generally credited with the observation that the presystolic [4] murmur disappears with the onset of auricular fibrillation; i. e., when coordinate contraction of the auricle is in abeyance. However, Brockbank [5] is authority for the statement that Mackenzie has found crescendo murmurs in cases with no "a" wave (evidence of auricular systole) in the tracing from the jugular vein, and that Lewis has reported a case in which the crescendo murmur disappeared though there was a wave in the jugular tracing which he attributed to auricular systole.

In 1911, Hart [6] reported four cases of mitral stenosis in which the presystolic murmur was present although the auricles were fibrillating. Professor James is stated to have verified the ausculatory findings; electrocardiographic proof of the fibrillation was obtained in two of the four cases. In my second paper,[7] I stated that in some cases of mitral stenosis in which the electrocardiogram confirmed the presence of auricular fibrillation I found, nevertheless, a crescendo murmur ending in the first sound (i. e., what is usually termed the presystolic murmur). The observations of Brockbank and Hart were also clearly mentioned in this paper, so it seems fair to remark that Dr. Pepper's comment,[3] quoted before, is too sweeping, if not unfair.

I may add that I am continuing to find cases showing the combination of mitral stenosis, auricular fibrillation, and the so-called presystolic murmur. My auscultatory findings have been confirmed by other members of the visiting staff of the hospital.[8] More than once it has happened that when I have given graduate students the opportunity to select a case showing what they consider a presystolic murmur, they have unwittingly picked a case in which auricular fibrillation was also present. I have noted that hospital interns often report the presence of a presystolic murmur in cases in which the heart rhythm is that of fibrillation. The details of one case have been published.[9] In all of these cases the electrocardiogram confirmed the presence of auricular fibrillation.

Some statements of Lewis [10] are of interest. He writes: "It is correct to state that an *isolated* presystolic murmur is not found as an accompaniment of fibrillation. At all events, the statement is true in the great majority of cases, and, at the most, has exceptions in occasional single cycles in rare cases." Wiggers [11] also states that "generally no presystolic murmur occurs in mitral stenosis when the auricles are fibrillating." Why the exceptions if the murmur is really dependent on auricular systole which is now absent?

Jossué and Barbier [12] recently presented a case in which a presystolic murmur was audible in spite of the existence of auricular fibrillation (electrocardiographically confirmed.) They state that the classical auricular causation theory cannot hold. In the same report they add, "It seems useful to remark, finally, that when, in our patients affected by mitral stenosis with complete arrhythmia, quinidin has succeeded in reestablishing normal rhythm with an effective auricular systole, as disclosed in our electrocardiograms by a rising of a P wave very high and broad, we have never seen a presystolic murmur appear."

The disappearance of a murmur after the onset of auricular fibrillation is not conclusive evidence that the murmur was caused by auricular contraction, now absent. Many murmurs are less easily detected when the heart shows absolute arrhythmia, especially if the rate is rapid. Bard [13] reported a case in which auricular fibrillation complicated an aortic insufficiency, due to structural change in the valve proved by necropsy, and yet no diastolic murmur was audible. One would not argue therefrom that the diastolic murmur of aortic regurgitation was produced by systole of the auricle.

CAUSATION OF THE CRESCENDO MURMUR

If the crescendo murmur ending in a sharp first sound is not produced by contraction of the auricle, it

1. Reid, W. D.: The First Heart Sound and the Presystolic Murmur, J. A. M. A. **76**: 432 (Feb. 12) 1921; The So-Called Presystolic Murmur, ibid. **77**: 1648 (Nov. 19) 1921.
2. Henderson, Yandell: A Neglected Feature of the Mechanics of Mitral Stenosis, J. A. M. A. **78**: 1046 (April 8) 1922.
3. Pepper, O. H. P.: Prog. Med. **3**: 132 (Sept.) 1922.
4. In quoting the work of others I will usually employ the term presystolic without adding the word "so-called"; elsewhere I may use other expressions, such as "crescendo early systolic," to describe the murmur.
5. Brockbank, E. M.: Modern English Cardio-Vascular Teaching, Quart. J. Med. **3**: 345, 1909-1910; Brit. M. J., Aug. 28, 1909.
6. Hart, Stuart: On the Mechanism of the Presystolic Murmur, M. Rec. **80**: 2, 1911.
7. Reid, W. D.: (Footnote 1, second reference).
8. The Boston City Hospital, with which I was formerly connected.
9. Reid, W. D.: The Heart in Modern Practice: Diagnosis and Treatment, Philadelphia, J. B. Lippincott Company, 1923, Case 5, p. 282.
10. Lewis: Lectures on the Heart, New York, Paul B. Hoeber, 1915, p. 77.
11. Wiggers, C. J.: Modern Aspects of the Circulation in Health and Disease, Ed. 2, Philadelphia, Lea and Febiger, 1923, p. 295.
12. Jossué, O., and Barbier, G.: Rétrécissement mitral: Présence d'un souffle présystolique malgré l'arythmie complète, Bull. Soc. méd. d. Hôp. de Paris **46**: 516 (March 24) 1922.
13. Bard, L.: Les insuffisances aortiques sans souffle, Sem. méd. **29**: 253 (June 2) 1909.

is pertinent to discuss by what mechanism it does arise. Henderson [2] has reported experimental evidence that, in mitral stenosis, following the auricular contraction the flaps of the mitral valve are not rolled inward by the normal "breaking jet" [14] mechanism, and, before ventricular systole can effect any discharge into the aorta, the baggy funnel of the mitral valve has to be made taut. He suggests that the sudden throw and tightening of the previously slack partition (i. e., the mitral valve) is the cause of the thrill and rumble characteristic of mitral stenosis. An analogy is proposed in that when a small paper bag is held over one's mouth and inflated with the breath, it produces such a sound as the walls come taut. Some work [15] on the experimental production of murmurs has convinced me that the murmur itself must be due to the passage of blood actually through the valve, owing to delayed or imperfect closure of the latter.

Brockbank,[16] in an earlier paper, writes that the advocates of the presystolic theory must believe that, in those cases in which a presystolic is the only murmur heard, the stiffened jaws of the stenosed orifice can be obliterated and made competent at as early a stage of ventricular systole as that at which the mobile curtains of a healthy valve close. He is convinced, as am I, that the crescendo murmur is produced by a regurgitation of blood into the auricle during the early part of ventricular systole.

Why is this crescendo murmur less frequently heard when fibrillation of the auricles obtains? As already stated, it is notorious that murmurs are less easily appreciated when the heart is beating irregularly. When auricular fibrillation is present, the cardiac contractions vary in their strength and in the volume of blood set in motion; witness the "abortive beats" or pulse deficit which is a feature of many cases of this rhythm. This is in accord with the all or none law of cardiac physiology; namely, when the heart muscle is stimulated, it either does not contract at all or does so to the fullest possible extent *at the time*. The amount of contraction does not depend on the strength of the stimulus employed, but varies according to the time at which the stimulus is received. When a stimulus is received early in diastole, the resulting contraction is weaker than that of the previous cardiac cycle. Within limits, the amount of contraction varies directly in proportion to the length of the previous diastole. Also, when the mitral orifice is stenosed, it may be that only in the longer diastoles does sufficient time elapse to permit the ventricle to receive a full content of blood.

In conformity with the foregoing, it is only in cases of auricular fibrillation, in which the ventricular rate is comparatively slow, in the region of 100 or less a minute and usually resulting from the administration of digitalis, that I have observed well marked persistence of the crescendo murmur. In these cases the ventricular contractions average more powerful and act on a fuller content of blood. There comes to mind the analogy to a pail of water from which more will be spilled, the fuller the pail is and the greater the jar to which it is subjected.

I would urge that, in considering the persistence in fibrillation of the crescendo murmur ending in the first sound, confusion be avoided with the murmur beginning definitely earlier in diastole, which, when the heart is beating at the more rapid rates, appears to fill the entire diastolic period. These are not presystolic in the sense that they originate there. I would add also that I have yet to observe such a murmur in which I could not detect a momentary pause before the succeeding heart sound or murmur, time to permit a reversal of the current through the mitral valve.

14. Henderson, Yandell; and Johnson, F. E.: Two Modes of Closure of the Heart Valves, Heart **4**: 69, 1912.
15. Reid, W. D.: The Production of Heart Murmurs, Am. J. M. Sc. **155**: 328 (March) 1923.
16. Brockbank, E. M.: The Causation and Rhythm of the Presystolic Murmur, M. Chron. **7**: 161, 1897.

THE TRUE AND THE FALSE PRESYSTOLIC MURMURS

As urged in an earlier paper,[7] there are two distinct murmurs: (1) one caused by auricular systole and, if one prefers the term, properly designated presystolic, and (2) the crescendo murmur of early ventricular systole, wrongly called presystolic. The former is relatively rare, not definitely crescendo, low pitched, often

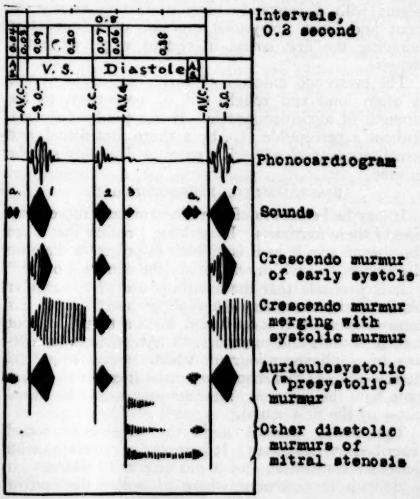


Diagram of some of the sounds and murmurs under discussion. *A. S.*, auricular systole; *V. S.*, ventricular systole; *A. V. C.*, auriculoventricular valves close; *S. O.*, semilunar valves open; *S. C.*, semilunar valves close; *A. V. O.*, auriculoventricular valves open; *a*, the presystolic sound of Bridgman; 1, 2 and 3, respective heart sounds; heart rate, 72 a minute.

faint, and usually audible merely as an accentuation of a murmur beginning earlier in diastole. It is separated from the succeeding sound or murmur. In quality, time and duration it is consistent with auricular systole.

Such observations as those of Cohn [17] in a case of heart block associated with mitral stenosis offer good evidence of the occurrence of this rare murmur produced by the contraction of the auricle. Dr. Cohn describes a case of mitral stenosis in which the polygram showed heart block with two to one rhythm. A presystolic murmur was always audible with the heart sounds and with the blocked auricular wave; i. e., when the auricular contraction was not followed by that of the ventricle, there was a similar murmur. Robinson [18] has reported a like case of mitral stenosis and heart block in which every third auricular beat did not elicit

17. Cohn, Alfred: Presystolic Murmur Due to Auricular Systole, Brit. M. J. **2**: 1153, 1909.
18. Robinson, G. C.: Nelson Loose-Leaf Living Medicine **4**: 367, 1920.

a ventricular response. In this instance, no murmur was audible with the blocked auricular wave.

The crescendo murmur of early ventricular systole is of much more frequent occurrence. It may be heard over hearts in which the mitral valve is normal, as well as over some in which organic stenosis of the mitral orifice is present. Thus, Phear,[19] in an analysis of forty-six necropsies in which no stenotic change of the mitral valve was demonstrated, although the presence of a presystolic murmur had been recorded, found that in seventeen there was organic aortic insufficiency, in twenty adherent pericardium, and in nine dilatation of the left ventricle. Cabot[20] records similar findings, and, more recently, Irons and Jennings[21] have reported four additional cases. As bearing on the same point, I would recall that Sewall[22] has emphasized that in the structurally normal heart the first sound frequently begins with a crescendo tone, simulating closely the faint and brief presystolic murmur or acute accent initiating the first sound in certain stages of mitral stenosis.

The crescendo murmur of early ventricular systole is often loud and rough, out of proportion to the strength of auricular systole. It is typically followed, without a perceptible gap, by a sharp first sound, and sometimes may blend with a murmur definitely systolic in time.

DIAGRAMMATIC REPRESENTATION

It may be helpful to offer a diagrammatic representation of these murmurs. In so doing I realize that I run the risk of attack, as it is difficult to present a diagram the accuracy of which will satisfy the demands of all.[23]

It is probable that the arbitrary use of rectangular blocks in the customary diagrams of heart sounds has caused some of the confusion in our thought about cardiac sounds and murmurs. I have chosen the outline of a phonocardiogram, which is crescendo and decrescendo, as this shape may make it easier to appreciate how the crescendo murmur may mask the initial phase of the first sound.

The sound marked *a* is the presystolic sound described by Bridgman. It is probably associated with auricular contraction and is not ordinarily audible. It is difficult to determine where to denote the end of auricular systole, since the latter is not a coordinate contraction but more of a peristaltic wave passing over the auricle. The point chosen coincides with the end of the sound and marks the end of the dynamic phase of auricular contraction, though the latter may persist in some of the outlying parts of the auricle. As far as possible, the various parts of the cardiac cycle are represented as having a duration in agreement with the average figures for a heart beating at a rate of 72.

19. Phear, A. G.: On Presystolic Apex Murmur Without Mitral Stenosis, Lancet **2**: 716, 1895.
20. Cabot, Richard: Physical Diagnosis, Ed. 5, New York, William Wood & Co., 1905, p. 217.
21. Irons, E. E., and Jennings, A. F.: Presystolic Murmurs in Rapid Hearts Simulating Murmur of Mitral Stenosis, J. A. M. A. **78**: 957 (April 1) 1922.
22. Sewall, H.: A Common Modification of the First Sound of the Normal Heart Simulating that Heard with Mitral Stenosis, Am. J. M. Sc. **88**: 10, 1909.
23. In determining the duration of the various phases of the cardiac cycle, I am indebted mainly to: Lewis, Thomas: Illustrations of Heart Sound Records, Quart. J. Med. **6**: 441, 1912-1913; The Time Relation of Heart Sounds, with Special Reference to the Acoustic Signs in Mitral Stenosis, Heart **4**: 241 (May 29) 1913. Bridgman, E. W.: Notes on a Normal Presystolic Sound, Arch. Int. Med. **14**: 475 (Oct.) 1914. Wiggers, C. J., and Dean, A. L., Jr.: The Nature and Time Relations of the Fundamental Heart Sounds, Am. J. Physiol. **42**: 476 (Feb.) 1917. Flack, M., and Hill, L.: Textbook of Physiology, New York, Longmans, Green & Co., 1919, p. 154. Burton-Opitz, R.: Text-Book of Physiology, Philadelphia, W. B. Saunders Company, 1920, p. 289, and Wiggers, C. J.: Modern Aspects of the Circulation in Health and Disease, Philadelphia, Lea & Febiger, 1923, p. 265.

COMMENT

Not all authorities today are satisfied with the term "presystolic" for the murmur of mitral stenosis. Thayer[24] writes of the murmur of mitral stenosis as "the murmur most unfortunately, I think, referred to in English and French literature as the 'presystolic' murmur of mitral stenosis. These murmurs are presystolic only in that they extend up to the first sound. . . . Auricular systole is a relatively unimportant event in association with these murmurs; and, while it may cause an actual presystolic accentuation of the rumble, this is by no means always the case."

A recent study[25] furnishes me with some striking figures as to the relative lack of value of the so-called presystolic murmur in the diagnosis of mitral stenosis. In 100 successive necropsies of medical cases, there were eight showing organic stenosis of the mitral valve, and but one of these was diagnosed in life. In none of the eight was any type of presystolic murmur noted. In two other patients a presystolic murmur was recorded, but the necropsy disclosed no stenosis of the mitral orifice.

To avoid repetition, I am not presenting at this time all the data on which is based the assertion that the crescendo murmur ending in the first sound is not due to systole of the auricle; the reader who is interested is referred to earlier papers.[1] The clinical method of timing the murmur in relation to the apex impulse is unreliable, as both murmurs should begin before the impulse of the apex is appreciable. In the discussion of Jossué and Barbier's[12] case, C. Paul stated that in mitral stenosis he had found a great delay in the apex impulse at the beginning of systole. He based this assertion on changes in tracings taken over the cardiac apex.

CONCLUSIONS

The crescendo murmur ending in the first sound does not necessarily disappear when auricular fibrillation is present.

It should be kept clearly in mind that there are two murmurs, one of rather rare occurrence and produced by contraction of the auricle, and the other, which is more common, due to the first part of ventricular systole. The latter murmur is due to a regurgitation of blood into the auricle.

Confusing the true and the false presystolic murmurs leads to diagnostic errors.

24. Thayer, W. S.: The Minimum Symptoms and Signs Necessary to Make a Diagnosis of Organic Heart Disease, New York M. J. **117**: 525 (May 2) 1923.
25. Reid, W. D.: Review of the Heart Findings in the Medical Autopsies at the Boston City Hospital During 1921, M. Rev. of Rev., November, 1923, p. 445.

Research on Malaria.—The great stream of research on malaria was composed of three great tributaries. One rose in the work of the ancients, in the discovery of cinchona bark, and culminated in the demonstration of the parasites in human blood by Laveran in 1880. Another was formed by the observations relating the disease to marshy land, and led to the speculations of Nott, Beauperthuy King, Laveran, Koch and Manson regarding the possible rôle played by the mosquito. A third came from the recognition of the laws of metaxeny or alternation of host. This fact was discovered by Abildgaard in 1790, and was applied in various directions by Leuckart, Manson, Smith and Kilborne and others. Once the confluence of these three tributaries was realized, the problem was a simple one. It remained for Ross, convinced in this belief by demonstrating the development of the parasite in the mosquito, to solve the riddle of the transmission of malaria.—McKendrick, A. G.: The Doctrine of Sir Ronald Ross, *World's Health* **4**:5 (Dec.) 1923.

INFECTIONS OF THE LIP*

MAURICE KAHN, M.D.
LOS ANGELES

It was my experience, in 1922, to see three fatal cases of lip infection:

REPORT OF CASES

CASE 1.—A man, aged 24, seen in consultation, May 6, noticed a pimple on the left side of the upper lip, May 1, which he picked open with a needle and squeezed. On the 2d there was slight swelling of the lip, and the opening and squeezing were repeated. On the 4th, the swelling was marked and a physician was consulted, who made a small opening with a scalpel and squeezed out only a drop or two of pus. The swelling continued to increase, and when I saw the patient the afternoon of May 6, the upper lip was greatly swollen, with the incisional wound 1 cm. long, about the center of the left half of the lip, pouting, and the tissue gangrenous looking. The swelling involved the entire left side of the face, and the left eyelids were almost closed. The temperature was 103.2, and the patient looked very sick. I thought he had septicemia at the time, and refused to operate on him. I requested a blood culture, but this was not obtained for some reason. I did not see him again, but I was told by his physician that he died thirty-six hours later. No necropsy was done.

CASE 2.—A man, aged 40, five days before I was called in consultation, opened with a pin a pimple of the upper lip, and squeezed out a drop of pus. Three days later his physician opened the lip and extruded a little pus. Two days later, when I saw him, there was great swelling of the upper lip and right side of the face, not unlike the preceding case. The patient had a temperature of 103.8 at noon, with conspicuous euphoria. Secretions from the wound showed *Staphylococcus aureus*. My prognosis was bad and I refused to operate. Another surgeon operated the same evening, and the patient died the following day.

CASE 3.—A man, aged 53, noticed a pimple about the center of the lower lip, July 25; another one below the chin developed a day or two later. Both were opened and squeezed by an osteopath. A regular practitioner saw him, July 29, and called me in consultation, August 2. The morning temperature was 102.6. There was marked swelling of the anterior part of the neck and of the lower lip, with grayish looking tissue in the wounds. I refused to operate in this case also and gave a hopeless prognosis. On the evening of August 3, I was surprised to receive another call from the physician; I found great swelling and redness of the lip, neck and chest as far as the third rib. The cervical and postauricular glands were enlarged. The temperature for the last few days had ranged from 102 to 105. The physician and the family argued that if the man were to die anyway, which they believed, no harm would be done by an operation, and that I had no right to refuse him a chance. So, against my own judgment, I was persuaded to operate on a man with septicemia who did not have a chance in the world to recover. A blood culture was taken immediately on his arrival at the hospital, and the patient was then taken to the operating room. Under ether, three transverse incisions were made, one across the chin, and two below, about 2 inches apart, and from the lowermost incision a longitudinal incision about 1½ inches in length was extended downward. Tiny pus pockets of two or three drops were encountered here and there. Thick, cheesy pus was found under the original openings made by the osteopath ten days before. The following day, August 4, a routine blood count showed 28,700 leukocytes and 90 per cent. polymorphonuclears. Later in the day the laboratory reported that blood culture showed *Staphylococcus aureus*. By this time the patient was delirious; swelling had extended to the eyelids and above the ear on the right. The right forearm along the ulnar side was dusky red; there was a bright red area along the antero-internal portion of the lower half of the left arm. He died, August 5. Necropsy was not obtained.

* Read before the Western Surgical Association, Colorado Springs, Dec. 6, 1923.

ANATOMY OF THE LIPS

Off and on for the last half century, articles have appeared calling attention to the occasional, and always possible, seriousness of facial and lip infections, and still the profession is far from being unanimous in the treatment of these cases.

Briefly reviewing the anatomy of the lips and mentioning the pathology of the fatal cases should assist us in obtaining a clearer understanding of the entire problem of lip infections, and may permit us to outline a satisfactory plan of treatment in the early cases.

It will be recalled that in and about the lips the muscles are inserted into the skin. There is practically no subcutaneous fat or loose subcutaneous connective tissue in which infection could safely develop or easily localize. The facial vein is formed by the union of the frontal and supra-orbital, and that portion of the vein which extends from its origin to the lower border of the orbit is termed the angular vein, and branches from this pass backward into the orbit to communicate with the ophthalmic which opens into the cavernous sinus. The lateral nasal veins arise from a plexus about the alae and tip of the nose. The veins extend upward to open into the lower part of the angular vein. The superior labial vein takes its origin in a plexus in the substance of the upper lip, with which branches from the septum and alae of the nose communicate. The vein passes upward and backward to the nasolabial groove, and opens into the facial vein about opposite the ala of the nose. The inferior labial vein arises from a venous plexus in the lower lip, and passes downward and outward to open in the facial vein after it has crossed the ramus of the mandible. The deep facial vein, or anterior internal maxillary, as it is sometimes termed, takes its origin from the pterygoid plexus over the tuberosity of the maxilla. It passes forward and downward between the buccinator and masseter muscles, and opens into the outer surface of the facial vein, where that vein passes beneath the zygomatic muscle. The deep facial vein through the pterygoid plexus communicates with the cavernous sinus by veins passing through the foramen ovale. It will be remembered, too, that the facial vein and its tributaries to the interior of the skull have no valves, so that blood passes from the facial vein to the cranial cavity or in a reverse direction with equal facility.

EFFECT OF SQUEEZING

Staphylococcus aureus is almost invariably the infective agent. The fatal cases usually show cavernous sinus thrombosis or metastatic abscesses of the lung or in various parts of the body, with thrombophlebitis of the facial vein and its tributaries.

It was early pointed out that the reason for the fatalities lay in the abundant vascular drainage of the region of the lips, thus making more likely venous thrombosis. Having in mind also the absence of connective tissue spaces, it will be seen that in infection of the lip the infective agent is brought into immediate intimate contact with the venous plexus of the lip. The almost constant motion of the lips, I believe, has a tendency to disseminate the infection early in the disease by what is a mild degree of squeezing or rubbing of the infection against the vein wall. Later on, when the swelling has become marked, the pain, I fancy, would of itself inhibit any great amount of motion. But before this stage has been reached, I am convinced that another factor has entered and one of supreme importance. I mean squeezing. The fact that we all see numerous

cases of slight infection of the lips, nose or face get well despite their having been picked, opened with a pin, finger nail or knife, and lawlessly violated repeatedly, signifies nothing, except to indicate what vicious malpractice the body is capable of withstanding. When these tiny infections proceed to a serious stage or to a fatal termination, I feel certain that severe traumatization, or incision, or both, have been executed. In this manner the infective material is either forced into the tiny veins by pressure, or by incision the veins are opened and the infective material thus readily enters, with the development of a thrombophlebitis. Now, if the squeezing is repeated, it should advance the thrombophlebitis perceptibly.

As a medical student I was taught the surgical axiom, "Never squeeze an infected wound." I may safely state that not a year passes but we have referred to us a score of infections aggravated by some one's injudicious squeezing. A common experience is this: A patient will state that he had an infection, and that his physician made a small opening and squeezed out a little pus. A day or two later the opening was enlarged and the area again squeezed. The swelling has become more extensive and the pain worse. Or while removing the dressing a patient will say, "Please don't squeeze it, doctor," thus unconsciously giving evidence that it has been unwisely squeezed. It would appear, therefore, that the members of the profession as a whole are not sufficiently alive to the evils arising from the practice of trying to force pus out of an infected wound. It seems that their zeal for speedy results sometimes prompts that action which thwarts the very purpose of its performance. If it were generally realized in pressing an infected wound for the purpose of extruding pus that the force is expended equally in all directions, so that force sufficient to extrude the pus is also sufficient to break through the weak barrier of leukocytes which Nature has thrown out as a protective wall, diffusing the infective material into the surrounding healthy tissue, the practice would, I have no doubt, be promptly abandoned. It is hazardous to squeeze any infected wound, but most perilous in infected wounds of the nose and lips. People are naturally ignorant of the havoc their own forceful but noxious efforts may effect; so, whenever opportunity presents, we should caution them against the danger of indulging in the universal pastime of picking and squeezing pimples.

TREATMENT

In considering the treatment of infected lips, it is interesting to note that every imaginable procedure has been advocated, including constriction hyperemia; hot wet applications; puncture of center and application of phenol (carbolic acid); phenol injections; crucial incision; crucial incision and injection of the patient's own blood or antitoxin; horse serum; vaccines; roentgen ray; vaccine with citric acid to increase the clotting time of the blood; galvanocautery, or immediate excision with the knife or cautery.

For the purpose of avoiding confusion in the discussion of the treatment, it may be permissible arbitrarily to divide infections of the lip into four stages or degrees, depending on the progress the infection has made:

The first stage is the pimple, with a tiny red or yellow center with no appreciable swelling.

The second stage shows notable redness and swelling for an area from 2 to 3 cm. in diameter. Tenderness, some pain and stiffness accompany this stage, and there is a slight elevation of temperature.

The third stage shows greater and more extensive swelling, with marked elevation of temperature. There is a septic thrombophlebitis.

The fourth stage is the stage of massive blood infection, or septicemia.

If the first stage cases, the pimples, are let definitely alone, they will almost always take care of themselves. We have all seen this occur in hundreds of cases and are seeing it almost daily. I firmly believe that if no treatment, or noli me tangere treatment, were practiced in all the first stage cases there would be no other stage to treat. In the second stage, in which there are redness and swelling of a limited area, hot moist dressings frequently changed, the patient in bed, and a nurse in charge, I believe to be the wisest procedure. The third stage cases, in which extensive swelling and thrombophlebitis are evident, I think should be subjected to operation designed to tie off the vein or veins proximal to the thrombosed area, and the removal of all obviously infected tissue. In the fourth stage cases, or those in which there is septicemia with positive blood culture, there is no treatment of any avail, so far as I know.[1]

1111 Brockman Building.

Clinical Notes, Suggestions, and New Instruments

MASTOIDITIS WITHOUT APPARENT INVOLVEMENT OF THE MIDDLE EAR

NORMAN M. HEGGIE, M.D., AND WILLIAM JEROME KNAUER, M.D., JACKSONVILLE, FLA.

B. E. Hempstead[1] reports that only fifty-three cases of mastoiditis without apparent involvement of the middle ear have been reported in English and American literature, twenty-six of these being reported since Dabney's[2] review of the literature in 1915. The rarity of this condition prompts us to report two such cases that have recently occurred in our practice.

CASE 1.—H. P., a girl, aged 3, seen, Aug. 20, 1923, had had a swelling behind the right ear, and pain over the mastoid region, for one week.

The temperature was 100. The hearing was normal. The nose, nasopharynx, larynx and both tympanic membranes were normal. The auricle was pushed forward, with a swelling over the mastoid region, especially marked at the tip. There was pain on pressure over the four principal points of the mastoid. As a diagnostic measure, a myringotomy was performed; this revealed no serum or pus. A tentative diagnosis of acute mastoiditis with tip perforation was made. The leukocyte count was 13,000. The father refused a roentgen-ray examination.

A semilunar incision was made, and a typical Bezold perforation was found, with advanced mastoiditis. All diseased bone and cells were removed. The aditus ad antrum was small. The abscess cavity was drained and the skin closed with Michell clips. Bacteriologic examination of pus from the mastoid revealed a staphylococcus.

CASE 2.—G. S., a girl, aged 20 months, seen, May 1, 1923, had had a swelling behind the left ear for two weeks.

The nose, nasopharynx, throat and both tympanic membranes were normal. There was a swelling over the whole mastoid process, with no erythema present. A tentative diagnosis of acute mastoiditis was made.

1. The most important articles bearing on this subject are listed by Martin, Walton: Ann. Surg. **76**: 13 (July) 1922.

1. Hempstead, B. E.: Mastoiditis Without Apparent Involvement of the Middle Ear, J. A. M. A. **81**: 1266-1270 (Oct. 13) 1923.

2. Dabney, Virginius: Idiopathic Mastoid Abscess, J. A. M. A. **65**: 501-504 (Aug. 7) 1915.

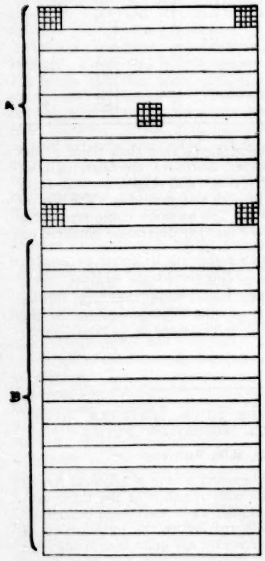
The usual mastoid incision was made. After elevation of the periosteum, a perforation was noted opposite the floor of the antrum. All necrotic cells and bone were removed, and the wound was closed by blood clot. Silkworm-gut sutures were used for skin. The tympanic membrane was incised, but no pus or serum was obtained. Bacteriologic examination of pus from the mastoid revealed a streptococcus. The patient was dismissed fifteen days after the operation with the wound healed.

Buckman Building.

A MODIFICATION OF THE BASS HEMATOCYTOMETER FOR COUNTING BLOOD OR SPINAL FLUID *

FOSTER M. JOHNS, M.D., NEW ORLEANS

The Bass counting chamber[1] has a total capacity of 0.4 cubic millimeter. By the addition of fifteen extra rectangles measuring 0.2 by 2 mm. each, the total cubic contents is thereby raised to exactly 1 cubic millimeter. Erythrocytes and leukocytes are counted in the usual manner on the original part of the ruling, a 1:100 dilution and appropriate diluting fluid being used.



Hematocytometer: *A*, original Bass ruling; *B*, additional fifteen rectangles.

To count the cells in spinal fluid (pleural or other effusion fluids), undiluted fluid should be mounted. A count of the entire chamber is the number of cells in 1 cubic millimeter. Diluting or staining fluids should not be used, as they are often a source of considerable error. With a 4 mm. (high dry) objective there is no difficulty in differentiating erythrocytes from leukocytes or other cells.

The simplicity of the ruling of the Bass hematocytometer has proved very advantageous. This modification has equal advantages in comparison with other counting chambers for spinal fluid. A number of comparative counts of spinal fluids indicate that a higher degree of accuracy is reached in counting 1 cubic millimeter undiluted, than larger amounts with dilutions and factors to enter into the calculation. The expense of a special counting chamber for spinal fluid is obviated.

The chamber is at present manufactured by the Bausch and Lomb Optical Company for the same price as the original Bass hematocytometer.

* From the Laboratory of Clinical Medicine, Tulane University of Louisiana School of Medicine.

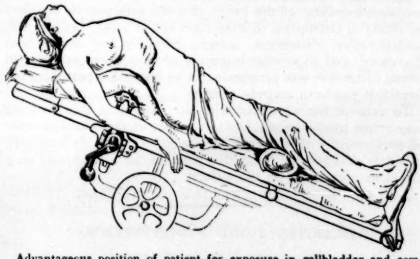
1. Bass, C. C.: An Improved Blood Cell Counting Chamber, J. A. M. A. **65**: 1028 (Sept. 18) 1915.

Prevention of Goiter in Pregnant Mother.—The administration of 30 c.c. of syrup of hydriodic acid, or of an equivalent amount of iodin in any other available form, for a period of one month during the first half of pregnancy will protect the mother and fetus. Desiccated thyroid is too dangerous.—T. Clark: *Pub. Health Rep.* **39**:110 (Jan. 18) 1924.

EXPOSURE IN GALLBLADDER AND COMMON DUCT SURGERY

EMILE HOLMAN, M.D., BOSTON
Resident Surgeon, Peter Bent Brigham Hospital

Handicapped for several years by inadequate exposure in common duct surgery, I was led during the past year to employ various positions of the body in an effort to obtain the maximum advantage to be gained from this source. The position finally adopted has given such a decided improvement in exposure that it was considered sufficiently important to justify its report here. It is no doubt true that numerous surgeons have utilized this position in the past; but, being aware of my own difficulties and having seen other surgeons in similar difficulties, I thought it would not be amiss to call it again to the attention of the profession so that others may be helped as we have by the method employed.



Advantageous position of patient for exposure in gallbladder and common duct surgery.

The usual type of adjustable and demountable kidney rack is attached to an operating table which can be inclined at any angle with the horizontal. With the table in the horizontal position and the kidney rack lowered, the patient, perfectly flat, is so placed that the lower border of the rack is on a level with the costal margin. The rack is then raised approximately 4 or 5 inches, thus causing the back to be arched in the region of the common duct, which is displaced forward or upward. By the same means the liver assumes a more anterior position against the abdominal wall.

With the kidney rack elevated to its proper position, the table is tipped to an angle of from 20 to 25 degrees with the horizontal, the feet lower than the head. This position displaces the loops of intestine into the lower abdomen and pelvis, where they remain by their own weight and the weight of the mesentery, thus relieving the first assistant of much of his difficulty in preventing the intestines from encroaching on the operator's field. At the same time the liver, by its weight, is displaced from underneath the costal margin.

The incision of choice is through the right rectus muscle, from the costal margin to below the umbilicus, depending on the depth of abdominal wall fat. The anterior sheath should be incised about three-fourths inch lateral to the midline, care being taken to divide it well up to the border of the costal cartilage. The fibers of the rectus muscle are split, and the posterior sheath with its attached peritoneum is incised—not directly opposite the incision in the anterior sheath, but almost in the midline, just lateral to the fat of the round ligament. This prevents, in some degree, the marked lateral displacement of the cut edge of the posterior sheath produced by the contraction of the transverse and oblique muscles; and, since this procedure was adopted, the difficulty of closing the posterior sheath and peritoneum has been definitely lessened.

On opening the peritoneum, one is surprised to find that the liver is displaced well below the costal margin, its lower edge lying below the lower half of the incision. As a result, the right lobe, with its underlying gallbladder, can be delivered into the wound with extraordinary facility, and eversion of its edge with delivery of the gallbladder is easily accomplished, even in the presence of a marked inflammatory reaction involving the tissues surrounding the gallbladder. The

common duct, likewise, is prominently brought into view, and easily exposed and opened, as are also the hepatic and cystic ducts.

In this position it is rarely necessary to cut the round ligament or to divide the costal attachment of the rectus muscle. The use of the kidney rack with the inclined plane does not interfere so prominently with respirations as does the flat table with the distended pneumatic gallbladder bag under the costal margin, a position still extensively used. The improved respiration is probably due to less interference with diaphragmatic breathing. A large sandbag under the back is not so serviceable as the narrow kidney rack, as the former tends to force the liver up under the costal margin. Breaking the table also is unsatisfactory, as it makes taut the anterior abdominal wall, thus preventing exposure by retraction, and it does not provide the advantageous anterior displacement of the common duct and liver.

An additional important advantage is the absence of the constant handling of the loops of small intestine by the first assistant in attempting to keep them out of view. As a result, postoperative distention seems definitely to have been decreased, and in several instances of very obese patients, in whom distention was prophesied as an inevitable postoperative sequel, it has been entirely absent.

To remove the appendix with the patient in this position may prove troublesome. If so, this part of the operation may be performed with the rack lowered and the table flattened. In a less exaggerated form, this position has also proved very useful in operations on the pylorus.

CONGENITAL TOTAL HEMIHYPERTROPHY

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Assistant Clinical Professor of Medicine, University of California Medical School

Stanton and Tuft carefully surveyed the literature and compiled only forty-one cases of this queer congenital deformity. These they reported,[1] together with a case of their own. Reed[2] recorded another instance in October, 1923. Because of the exceeding rarity of this peculiar malady, a case that I observed is noted, which, together with those referred to above, makes a sum total of forty-four published instances of congenital total hemihypertrophy. The table of measurements suffices for the diagnosis. Theories of etiology would be entirely speculative. The reader interested in further details is referred to the article of Stanton and Tuft and to the references in their bibliography.

REPORT OF CASE

M. M., aged 45, a married woman of Greek nationality, came to the outpatient department of the University of California, Oct. 18, 1923. She was seen first in the neurology clinic, because her complaints were nervousness and depression. She ascribed these symptoms to the fact that her husband's employment kept him away day and night, and consequently left her much alone. She had no friends or relatives near her save her daughter, aged 6½ years. She also pined for her boy, aged 21, who was in Greece. She had no physical complaints except conjunctivitis, amenorrhea of six months' duration, and a disagreeable vaginal discharge.

Dr. Hirschfeld immediately noticed the extraordinary disproportion between the right and left sides, and because of an "acromegalic-like spade hand" on one side, referred her to the ductless gland clinic for further investigation.

The patient resided more than 30 miles from San Francisco, and made only one visit to the clinic. She was large, well developed and rather obese. There was striking hypertrophy of the entire right side of the head, face, chest, abdomen, arm and leg. The right pupil was slightly larger than the left; both were circular and reacted normally. The right lower lip was distinctly fuller than the left. The mustache, which was quite pronounced, was fuller on the right side. The hair generally was more copious than normal, and was rather coarse and dry. Moreover, the hair of the scalp was quite straight. The right half of the tongue was considerably larger than the left; this was very noticeable also in the case reported by Stanton and Tuft. The thyroid gland was of normal size, and presented no abnormality to palpation or auscultation. The radial pulses were equal in force and were synchronous; the pulse rate was normal. There was no tremor of the extended fingers. The fingers of the right hand

Variation in Measurements of Right and Left Sides

Part Measured	Right Inches	Left Inches	Difference in Inches
Head, circumference	10½	10½	None
Width of orbit	2½	2½	None
Cheek, from middle of upper lip to middle of back of head	9¾	9	¾
Tongue, from center to edge	1¾	⅞	¾
Arm, girth at shoulder	15¾	13	2¾
Girth at forearm	12¼	10¾	1½
Girth at wrist	7⅜	7	⅜
Length, from acromion process to olecranon	12½	12	½
Forearm, length from olecranon to styloid process of ulna	10½	9½	1
Length of middle finger	4¼	4½	¼
Chest, circumference	18¾	17½	1¼
Abdomen, circumference	20½	19	1½
Pelvis, circumference	20¾	19	1¾
Leg, girth at thigh	24¾	23¼	1½
Girth at calf	17¾	16⅛	1⅝
Girth at ankle	10¾	10½	¼
Girth at foot	11⅜	10¾	⅝
Tip of great toe to heel	11	10½	½

presented an entirely different appearance than those of the left, both in size and in shape. Moreover, the finger nails of the right hand were very dry, rough and ridged, whereas those of the left hand were quite smooth and glistening. The breasts appeared to be of equal size. The women's clinic reported a normal pelvis, and considered that her depression bordered on a menopausal psychosis.

There was no opportunity for any laboratory tests, roentgen examinations or even for a family or past history. It is unlikely, however, that they would have shed any further light on the condition except that roentgenograms of the bones might have revealed an enlargement of the bones on the right side.

240 Stockton Street.

1. Stanton, J. N., and Tuft, Louis: Congenital Total Hemihypertrophy, J. A. M. A. **80**: 1432-1434 (May 19) 1923.
2. Reed, A. C.: Congenital Total Hemihypertrophy, New York M. J. **118**: 483-484 (Oct. 17) 1923.

CHOLESTEATOMA OF THE THIRD VENTRICLE, WITH BILATERAL ARGYLL ROBERTSON PUPILS *

F. R. FORD, M.D., BALTIMORE

As early as 1887, Moeli[1] reported a case of bilateral Argyll Robertson pupils associated with a tumor of the third ventricle. Since then several similar cases have been described.[2] The older cases, which occurred before the introduction of the Wassermann test, are of course not quite convincing; but in recent years the Argyll Robertson sign has been found repeatedly in various abnormal conditions of the nervous system in which it has seemed possible to exclude syphilitic infection, and it is now evident that it is not a specific sign of syphilis, but may result from lesions of various types. These lesions have been found most frequently in the anterior part of the midbrain and the third ventricle. The Argyll Robertson pupil has been described in brain tumors,[3] multiple sclerosis,[4] epidemic encephalitis,[5] syringomyelia,[6] chronic alcoholism,[7] hypertrophic interstitial neuritis,[8] vascular

* From the Neurological Department of Johns Hopkins University and Hospital.

1. Moeli: Arch. f. Psychiat. **18**: 1, 1887.
2. Buzzard, F.: Brit. M. J. **2**: 1319, 1910. Rudolf, G. de M., and Wilson, S. A. K.: J. Neurol. & Psychopath. **3**: 140 (Aug.) 1922. De Monchy, S. J. R.: Brain **46**: 177, 1923.
3. Moeli, Buzzard, Rudolf, Wilson, de Monchy (Footnotes 1 and 2).
4. Rad: Neurol. Centralbl. **30**: 584, 1911.
5. Wilson, S. A. K.: J. Neurol. & Psychopath. **2**: 1 (May) 1921.
6. Dejerine and Mirallie: Sem. méd. **15**: 105, 1895.
7. Nonne: Neurol. Centralbl. **31**: 6, 1912.
8. Dejerine and Sottas: Comptes rend. Soc. de biol. **5**: 63, 1893.

lesions[9] and in gunshot wounds[10] and other injuries of the head. Argyll Robertson pupils in nonsyphilitic cases are usually large and circular, in contrast to the syphilitic pupils, which are usually small and irregular. Wilson[3] has recently clarified the whole subject in a comprehensive article with an extensive bibliography.

The case reported here is an interesting illustration of the localizing value of Argyll Robertson pupils in brain tumor.

REPORT OF CASE[11]

J. D., a man, aged 35, entered the Johns Hopkins Hospital, April 25, 1923, complaining of severe headaches. These headaches developed in the summer of 1922, and were at first paroxysmal. The pain was localized mostly over the right eye, but also radiated over the top of the head and to the occiput. In the fall the headache had become constant, with frequent excruciating exacerbations during which the patient became frantic with pain and had to be restrained. There had been only a little vertigo and one spell of vomiting. March 28, the patient experienced a transient numbness on the right side, and his right leg was so weak for a few moments that he could scarcely stand. After this he noticed that he dragged his right foot.

The patient gave no history of a venereal sore or of a secondary skin rash. He had two healthy children, and his wife had never had a miscarriage.

Physical examination was negative except for the neurologic findings. There was a well marked bilateral exophthalmos. The pupils were very large, equal and perfectly circular. They showed no reaction to light stimulation, either direct or consensual, on repeated examinations, but contracted to about half their diameter during accommodation-convergence. Vision was subjectively unimpaired, and the patient could read ordinary newspaper print with either eye. No limitation of the visual fields could be demonstrated. There was a bilateral papilledema of about 4 diopters, with many retinal hemorrhages. The extra-ocular movements were of normal extent, and there was no nystagmus. No other abnormalities were detected in the domain of the cranial nerves. There was no weakness or ataxia of the extremities, no disturbance of sensibility, and no modification of the tendon or superficial reflexes. Station with the eyes closed was steady, and the gait showed nothing abnormal.

No scars were found on the genitalia, and no enlargement of the lymph nodes was made out.

The spinal fluid contained 6 cells per cubic millimeter and no globulin. The Wassermann reaction was negative in four dilutions, and the colloidal gold curve read 0000000000. The Wassermann reaction in the blood also was negative. Roentgen-ray examination of the skull showed only a well marked "convolutional atrophy."

Because of the absence of localizing signs, Dr. Dandy injected air into the cerebral ventricles. This procedure showed a symmetrical dilatation of both lateral ventricles, with only partial filling of the third ventricle. June 23, Dr. Dandy performed a right craniotomy and found a pearly, white, flaky cholesteatoma in the region of the splenium of the corpus callosum, which extended downward into the third ventricle and anteriorly about half the length of the corpus callosum. Laterally, the tumor indented both of the dilated lateral ventricles.

The growth had originated in the roof of the third ventricle, and caused hydrocephalus by occluding the entrance to the iter. It was easily scooped out with a curet, and the capsule removed completely. The patient was in poor condition to withstand operation, and did not rally. He died, June 25.

Necropsy showed the cavity left by the removal of the tumor filled with blood clots and a few flakes of tumor. Microscopically, the capsule was composed of squamous epithelium. Nothing else of significance was found in the postmortem examination, and the viscera showed no signs of syphilis.

9. Schuster: Deutsch. Ztschr. f. Nervenh. **70**: 97, 1921.
10. Nattrass, F. J.: J. Neurol. & Psychopath. **4**: 162, 1923.
11. By courtesy of Dr. W. E. Dandy from the surgical department of Johns Hopkins Hospital.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

STAPHYLOCOCCUS VACCINE (See New and Nonofficial Remedies, 1923, p. 310).

United States Standard Products Company, Woodworth, Wis.

Staphylococcus Combined Vaccine.—Marketed in packages of one 10 cubic centimeter vial, each cubic centimeter containing 1,000 million killed *Staphylococcus albus* and 1,000 million killed *Staphylococcus aureus* suspended in physiological solution of sodium chloride and preserved with 0.5 per cent. phenol.

STREPTOCOCCUS VACCINE (See New and Nonofficial Remedies, 1923, p. 312).

United States Standard Products Company, Woodworth, Wis.

Streptococcus Vaccine.—Marketed in packages of one 10 cubic centimeter vial, each cubic centimeter containing 400 million killed streptococci suspended in physiological solution of sodium chloride and preserved with 0.5 per cent. phenol.

MIXED BACTERIAL VACCINE (See New and Nonofficial Remedies, 1923, p. 318).

United States Standard Products Company, Woodworth, Wis.

Acne Vaccine Combined.—Marketed in packages of one 10 cubic centimeter vial, each cubic centimeter containing 40 million killed acne bacilli and 1,000 million killed *Staphylococcus albus*, suspended in physiological solution of sodium chloride and preserved with 0.5 per cent. phenol.

DIPHTHERIA ANTITOXIN, CONCENTRATED (See New and Nonofficial Remedies, 1923, p. 283).

United States Standard Products Company, Woodworth, Wis.

Diphtheria Antitoxin, Refined and Concentrated.—Prepared according to a modification of Banzhaf's method; contains not more than 20 per cent. of solids and is preserved by orthocresol, 0.4 per cent. Marketed in syringe containers of 1,000, 3,000, 5,000, 10,000 and 20,000 units, respectively.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE (See New and Nonofficial Remedies, 1923, p. 284).

United States Standard Products Company, Woodworth, Wis.

Diphtheria Toxin-Antitoxin Mixture (0.1 L+).—Each Cc. of the mixture constitutes a single dose containing 0.1 lethal dose of diphtheria toxin (0.1 L+), neutralized with the proper amount of antitoxin and preserved with 0.5 per cent. phenol. Marketed in packages of 3 vials, each containing 1 Cc.; marketed in packages of 30 vials, each containing 1 Cc.; also marketed in packages of 1 vial containing 30 Cc.

DIPHTHERIA IMMUNITY TEST (SCHICK TEST) (See New and Nonofficial Remedies, 1923, p. 323).

United States Standard Products Company, Woodworth, Wis.

Diphtheria Toxin for Schick Test and Control.—Marketed in packages containing a vial with undiluted diphtheria toxin standardized, and a 2 Cc. vial of sterilized physiological solution of sodium chloride with which the toxin is diluted before using. The dose is 0.2 Cc., each package contains therefore, 10 tests. As a means of control, there is also supplied diphtheria toxin of the same lot but heated sufficiently to destroy the specific exotoxins and 2 Cc. of physiological solution of sodium chloride for diluent. The product is marketed in packages containing 5 times the foregoing amount sufficient for 50 tests and control tests; also marketed in packages sufficient for 100 tests, but the strength of the toxin is such that the dose is 0.1 Cc.

TETANUS ANTITOXIN, CONCENTRATED (See New and Nonofficial Remedies, 1923, p. 284).

United States Standard Products Company, Woodworth, Wis.

Tetanus Antitoxin.—Tetanus Antitoxin is prepared by the Banzhaf method with slight modifications in order to remove as much of the non-antitoxic proteins as possible. The antitoxin globulins are suspended in physiological solution of sodium chloride and preserved with 0.4 per cent. cresol. Marketed in syringes containing each 1,500, 5,000 and 10,000 units.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - - CHICAGO, ILL.

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Subscription price - - - - - - Five dollars per annum in advance

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SATURDAY, MARCH 29, 1924

LIMITATIONS OF ORGANOTHERAPY

In a previous issue of THE JOURNAL,[1] reference was made to the proper place of criticism in the scheme of scientific progress. The failure of the newer chemotherapy to accomplish all that it set out a few years ago to do specifically was cited as an illustration of the need of critical review whenever enthusiasm for a brilliant hypothesis makes us temporarily oblivious to the constant need of a rigorous test. This should not be a bar to advancement, but rather a warning to proceed with due caution and within the bounds of demonstrated fact. A similar admonition has been uttered by Carlson [2] in relation to the widely heralded organotherapy that has sustained so many false hopes in recent years. It may come as a setback to many to hear that this field of therapy can at present "be credited with two distinct successes, but it is also handicapped by not a few unproved claims and many baffling failures."

Must it be said, then, that the dozens of "organotherapeutic" preparations currently offered for sale are to be relegated to the rubbish heap? Let us first consider more precisely what is to be meant by organotherapy. Carlson defines it as the partial or complete control of disease due to hypofunction of an organ by oral or parenteral administration of substances prepared from this organ. In the light of this definition, certain derivatives of the thyroid and the insulin extracts of the pancreas may properly claim a therapeutic success in hypothyroidism and pancreatic diabetes, respectively. For the present, however, it seems irrational on this basis to expect any remedial effect against disturbances of organs that do not demonstrably produce some chemical regulator or hormone. Carlson wisely sets forth the dictum that the existence of specific organotropic substances in various organs should first be demonstrated by accurate laboratory experiments before one is justified in using such organ extracts on patients, in whom, even under the best of conditions, the factors that permit correct interpretation of the outcome cannot be well controlled. Furthermore, we repeat with him that there is little or no hope for successful organotherapy in diseases due or supposed to be due to a primary hyperfunction of organs; nor should an organ extract be expected to correct a distorted function.

It is not merely from the negative standpoint—the failure or the obvious improbability of restoring a lost function—that much of the organotherapeutic craze deserves criticism. There are positive dangers in some of the current procedures. Unwarranted attempts at hypodermic or intravenous introduction of "extracts" of complex and dubious composition into persons should always be made the subject of vigorous protest. Anaphylactic shock, protein sensitization, toxicity and localized tissue damage are some of the undesired consequences of "therapeutic credulity" on the part of uncritical physicians. It is true that the pharmacodynamic effects of certain extracts of animal organs are of use in practical therapy. With few exceptions, however, work with them has scarcely passed the experimental stage; and such experimentation is best confined to the laboratory rather than the clinic. Carlson's thoughtful criticism should have a wide circulation among physicians.

1. Limitations of Chemotherapy, editorial, J. A. M. A. 82:969 (March 22) 1924.
2. Carlson, A. J.: The General Principles of Organotherapy, Proc. Inst. Med. Chicago 4:198, 1923.

WHY XEROPHTHALMIA DESERVES ATTENTION

Through the animal experiments of Osborne and Mendel, and of McCollum and his collaborators, in this country, attention has become directed to the phenomena of xerophthalmia and the disease associated with it.[1] There can be little doubt that the type of ophthalmia that can be brought about in animals through faulty diet is associated with a deficiency of vitamin A, the food factor present in various naturally occurring fats, particularly those of animal origin. While admitting the cogency of the experimental evidence for the etiologic relations of xerophthalmia to dietary shortcomings, American clinicians have been inclined to minimize its practical significance. At most, occasional reports of human cases have appeared; consequently, the pediatricians and the ophthalmologists have regarded xerophthalmia as having only academic interest rather than serious medical importance.

In a recent investigation undertaken for the Danish Ophthalmologic Society by Olaf Blegvad, from 600 to 700 cases of xerophthalmia were found to have occurred between 1909 and 1920 among children, in a population of less than 3,000,000, and there were probably others. Bloch [2] of Copenhagen, the foremost investigator of xerophthalmia in the last few years, has therefore lately

1. The experimental aspects of the subject have been described by Mendel, L. B.: Nutrition, The Chemistry of Life, Yale University Press, 1923.
2. Bloch, C. E.: Blindness and Other Diseases in Children Arising from Deficient Nutrition (Lack of Fat-Soluble A Factor), Am. J. Dis. Child. 27:139 (Feb.) 1924.

emphasized the fact that the malady, which, if uncontrolled, may lead to blindness and thus become a serious menace to human welfare, is by no means extremely rare. At any rate, it is liable to arise whenever economic or other conditions make the dairy products essential to child welfare too expensive for those who are less well to do. Whereas, tuberculosis makes its inroads in childhood more easily when food in general is scarce, xerophthalmia is associated with a more specific dietary inadequacy. Bloch has pointed out that during the war there was much sickness in central Europe among the older children. The smaller ones, on the other hand, were little affected, xerophthalmia being scarcely ever seen in them. This state of affairs was due to the fact that during the war all the milk and milk products in Germany were rationed so that every young child obtained a certain amount daily. If the child was being nursed by the mother, she received the milk; and xerophthalmia was never observed in children suckled by a mother capable of yielding sufficient milk. The high war-time incidence in peaceful Denmark finds its explanation in the circumstance that this dairy-farming country manufactures and exports butter. During the war, butter, and consequently fresh milk, became so expensive that the poor could procure scarcely any of it, and they were able to obtain only separated milk and buttermilk, which could always be had at a low price. The number of cases of xerophthalmia increased, therefore, until 1918. In that year the disease was suddenly checked. On account of the German blockade, butter was rationed in Denmark so that every individual, including young children, was entitled to 0.25 kg. of butter a week; and, as there was almost no pork fat or margarin in the country, everybody had to eat butter. Xerophthalmia ceased simultaneously.

Clinical experience has thus fully confirmed the investigations on animals. Lest we forget in these days of antivivisection propaganda, let us bear in mind that these experiments of the laboratories pointed the way to successful therapy and prophylaxis. The unfortunate experience of another country should make physicians in every part of the world better prepared to recognize xerophthalmia, to understand its origin and to treat or, better still, avert it. Bloch believes that the malady will be discovered in every country when it is looked for; and who knows when and where economic misfortunes may again disorganize national food supplies? The history of xerophthalmia testifies anew to the enormous importance of milk as a food for children. No other article of diet can replace milk, Bloch warns us in the light of his European experience. Absence of milk from the diet, he adds, or the inclusion of improperly modified milk, is the origin of very serious diseases. Incidentally, we must not forget that this eye disease is only one of the maladies against which a proper diet protects us. It promotes growth and development in the adolescent period, and helps enormously in the battle against infections.

THE EXPERIMENTAL PRODUCTION OF HERPETIC LESIONS

The etiology of herpetic eruptions in man is by no means completely solved, and more precise knowledge of the subject is comparatively recent in origin. It was not until 1900 that Head and Campbell definitely established the morphologic pathology of herpes zoster by the demonstration that the herpetic eruption is associated with acute interstitial inflammation of the dorsal root ganglions, or of their homologues on the cranial sensory nerves. The presumable involvement of some infective agent in the pathogenesis of herpes of this type has long been suspected. The important observation of the production of an experimental disease in animals with a virus from herpes febrilis or simplex, which is clinically and pathologically analogous to the human disease herpes zoster, was announced not long ago by Teague and Goodpasture.[1] Further details have now been published.[2] In order to render the skin of experimental animals more susceptible to the virus, an active hyperplasia of the skin has first been produced by the application of coal-tar. On such tarred skins, the virus of herpes simplex has been effective. Teague and Goodpasture believe that there are intermediate forms of herpes in man, the eruption of which is definitely neural in distribution, caused by a virus strongly pathogenic for rabbits. The virus from such a case has produced, on primary inoculation into the tarred skin, a typical experimental herpes zoster. These pathologists have expressed the opinion that herpes zoster in man is produced by a strain of virus differing from the virus of herpes simplex only in virulence, or by a virus closely related to that of herpes simplex.

The current investigations of the infectivity of herpetic lesions support the view of Lipschütz[3] that there is a proliferation of herpetic virus within nuclei, though it is by no means proved that the growth is restricted to an intranuclear environment. In any event, characteristic intranuclear inclusions have now been demonstrated so often that they are interpreted to indicate the presence of virus. The precise nature of the micro-organism involved remains to be ascertained. Goodpasture and Teague have demonstrated for the first time that the so-called herpetic virus can proliferate and produce characteristic lesions in organs and tissues derived from the three embryonal layers, the ectoderm, endoderm and mesoderm. Injury to the cells in the inoculated area seems, however, to be a necessary preliminary to a local infection.

Not only have herpetic lesions been passed repeatedly from eye to eye by experimental inoculation; but

1. Teague, Oscar; and Goodpasture, E. W.: Experimental Herpes Zoster, J. A. M. A. **81**: 377 (Aug. 4) 1923.
2. Teague, Oscar; and Goodpasture, E. W.: Experimental Herpes Zoster, J. M. Res. **44**: 185 (Dec.) 1923.
3. Lipschütz, B.: Arch. f. Dermat. u. Syph. **136**: 428, 1921. Goodpasture, E. W., and Teague, Oscar: Experimental Production of Herpetic Lesions in Organs and Tissues of the Rabbit, J. M. Res. **44**: 121 (Dec.) 1923.

Goodpasture and Teague [4] have been able also to prove conclusively that the virus of herpes febrilis can pass from a peripheral site along corresponding nerves to the spinal cord or brain. In this way there is produced at the site of entrance and along the central distribution of these nerves an acute herpetic lesion demonstrable grossly and histologically to be directly related to the nerve along which it passed. The transmission may be along motor, sensory or sympathetic fibers, depending on the nerve supply to the inoculated area. The mode of transit seems to be by way of axis cylinders rather than perineural spaces, and not by passive transportation but by invasive proliferation. With so much of fundamental importance now established with a considerable degree of probability, we may confidently look forward to the discovery of the real infectious agency of herpes—and then to more helpful management of a group of symptoms that now tax the therapeutic ingenuity of the physician.

DENTAL EDUCATION AND MEDICINE

The story of the changes in the conditions attending medical education in this country has frequently been rehearsed in THE JOURNAL,[5] so that readers must have become familiar with the beneficial reforms that have followed the investigation of medical schools and their activities. Proprietary institutions conducted primarily for profit have almost disappeared. Many schools have formed new affiliations destined to promote their stability and educational facilities. Others have met the demands of progress exposed by critical inspection and have raised their standards to a more acceptable plane. The spirit of reform has pervaded even the darkest spots of the weakest medical schools; and the revelations have resulted in wholesome improvements in many directions. Standards and performance have risen to new levels that are highly gratifying.

Changes of a comparable sort seem to be impending in dental education in America, according to the recent report of the president of the Carnegie Foundation for the Advancement of Teaching.[6] When its division of educational inquiry, which has accomplished so much for medical education, inaugurated the study of dental education in Canada and the United States in 1921, there were fifty-one schools in these countries. Fourteen independent dental schools in the United States were frankly proprietary in character or were conducted on a plane that was obviously commercial. Of that group of dental schools, two have been absorbed by dental schools in universities; one has become a new integral part of a university; three have effected affiliations with universities that are expected to be initial steps to organic union; the owners of one are endeavoring actively to make the school an integral part of a university; five have been, or are about to be, transferred to boards of trustees of independent organizations that were formed to conduct the schools as nonproprietary educational institutions (although the owners preferred, and the new organizations desire, to make these schools parts of universities); one has been closed; and only one—a Grade C concern—appears to expect to continue as a proprietary school. Accordingly, proprietary dental schools, which were important in 1921 as factors of demoralization in dental education, have become virtually extinct. In addition, mercenary or indifferent management of dental schools by some universities has been definitely discouraged, and in notable instances discontinued. The standards for admission to the schools have been raised; and the outlook indicates that, ere long, dental education will approach a position of scholastic equality with medicine, both in the character of the preliminary study required and in the depth and breadth of the scientific foundation afforded.

Dentistry has become something far greater than mere tooth technology. It occupies an important position in preventive medicine and public health. President Pritchett has stressed the fact that today the dentist and the physician should stand on a plane of intellectual equality and be able to "talk the same language." The practice of medicine and the practice of dentistry, he writes, are coordinate divisions of health service. They are like trees that have sprouted spontaneously from an old stump, the stump having long since disappeared —trees alike in kind and closely similar in appearance, growing somewhat divergently from the same roots in a common soil, through the same air of freedom and individual opportunity, in the same light, toward the sky.

4. Goodpasture, E. W., and Teague, Oscar: Transmission of the Virus of Herpes Febrilis Along Nerves in Experimentally Infected Rabbits, J. M. Res. **44**: 139 (Dec.) 1923.
5. Medical Education in the United States, J. A. M. A. **81**: 549, 579 (Aug. 18) 1923.
6. The Carnegie Foundation for the Advancement of Teaching, Eighteenth Annual Report of the President and of the Treasurer, New York, 1923.

Current Comment

HUMAN INTERESTS

From time to time the newspaper columnists, in the interest of humor, have published fragments of conversation heard in passing by their contributors. Several years ago, the psychologist Henry T. Moore analyzed a number of such conversations heard in various places, and found that men conversed more frequently about business, money and amusements, whereas women seem to be primarily concerned with clothes and decoration. Recently, M. H. Landis and H. E. Burtt, psychologists at the Ohio State University, Columbus, reported to the *Journal of Comparative Psychology* the results of a similar analysis made on 500 conversations in that community, with a view to comparing them with the records of those heard on Broadway, New York, where Moore made his observations. Their investigations include persons in restaurants, at basketball games, in theater lobbies, in front of store windows, on the university campus, in barber shops, in

churches and on the street. The conversations were classified under ten headings: business and money, men, women, clothes and decoration, sports, other amusements, college work, health, self and the weather. The results at Columbus, Ohio, agreed in general with those observed on Broadway. Men's most frequent topic is business—49 per cent. in Columbus and 48 per cent. in New York. If sports and other amusements are combined, these topics have a frequency of 15 per cent. at Columbus and 14 per cent. in New York. The third topic of men's conversation is men—12 per cent. in Columbus and 13 per cent. in New York. Women's leading topics are men, 22 per cent., and clothes, 19 per cent. For New York, the figures were men, 44 per cent., and clothes, 23 per cent. The next topic is other women, about 15 per cent. In mixed company, men most frequently talk to women about amusement, and next of business and money. They further seem to talk to women considerably about themselves—17 per cent.—which is more than when talking to other men. Women most frequently converse with men about amusement; secondly, about clothes; thirdly, to a considerable extent about themselves and about men. The results were classified also as to the social status of those concerned. Business people talked about business and money in 70 per cent. of cases, as compared with 43 per cent. for industrial workers and 9 per cent. for students. Industrial workers talk chiefly about men and themselves, and students talk chiefly about other men, their opportunities and amusements. It is interesting to observe that only 8 per cent. of student conversation overheard dealt with actual college work. Although health was one of the subjects catalogued, it is important to notice that it had little interest for those who were well.

THE PROPHYLACTIC USE OF DIPHTHERIA ANTITOXIN

Although the value of antitoxin in the management of diphtheria is no longer debated and its use has come to be almost universal in the treatment of the disease, medical opinion seems to be divided as to the desirability of employing the antitoxin as an immunizing agent when persons are exposed through contact with infected patients. There is always some risk of death from the injection of horse serum or its products into man, so that the clinician will naturally weigh this possibility before subjecting a healthy person to whatever danger may be involved in the immunizing procedure. The best statistical record of deaths from antitoxin shows one death among approximately 75,000 persons injected. As has recently been pointed out,[1] the alternative that is advocated in lieu of prophylactic antitoxin is a careful examination of the contacts each day by a physician, and the use of therapeutic doses of antitoxin at the earliest indication of clinical infection. While this cannot be expected to diminish the risk of infection, it should lessen the risk of death. Such attempts to avert a calamity are not free from serious difficulties, not the least of which are the uncertainties of early diagnosis and the continued careful surveillance demanded. Added to this, furthermore, is the risk of death from diphtheria if it should be contracted by an exposed person. From a practical standpoint, the statistics recently gathered at Baltimore by Doull and Sandidge[1] are quite significant. According to their records of more than 500 consecutive cases of diphtheria, 10 per cent. of the family contacts of 10 years and under who were not given prophylactic antitoxin subsequently developed diphtheria, mostly within thirty days. Of the children of the same group who were given prophylactic antitoxin, only 1.2 per cent. were attacked. This experience, the authors state, is in agreement with the experience of other writers with regard to the low secondary attack rates among immunized children and the very much higher rates among children not so treated. These findings demand serious consideration in the debate as to whether dependence should be placed solely on frequent examinations of the throats of contacts and the administration of sufficient doses of antitoxin therapeutically in case of developing diphtheria rather than on the prophylactic use of the antitoxin when infection is threatened by environmental circumstances.

1. Doull, J. A., and Sandidge, R. P.: Is the Prophylactic Use of Diphtheria Antitoxin Justified? Pub. Health Rep. 39: 283 (Feb. 15) 1924.

Association News

THE CHICAGO SESSION

Railroad Rates from the Pacific Coast to Chicago

Physicians who expect to attend the Seventy-Fifth Annual Session of the American Medical Association, to be held in Chicago, June 9-13, should make careful inquiry at railroad ticket offices, before purchasing tickets, as to whether or not summer excursion rates are in effect. The summer excursion rates from the Far West have, for several years, been lower than the rate that has been specifically granted for the coming Chicago Session, and it is understood that it will be lower this year. Summer excursion tickets, it is said, will permit stopovers to be made on the going, as well as on the return trip. Definite information concerning this can be secured from railroad agents.

All who purchase tickets sold specifically for the Chicago Session from points other than those located in the Far West *must secure return certificates* at the time tickets are purchased in order to get the advantage of the rate of one and one-half fare.

Hotel Reservations

While one or two of Chicago's large centrally located hotels have announced that their entire capacity has been reserved for the week of the coming session, it nevertheless seems that physicians who intend to be present have been somewhat slow to reserve hotel accommodations. This is unfortunate, because Chicago has regularly a very large hotel population and it is not safe to defer making reservations. Dr. Frank Morton, Room 1522, 25 East Washington Street, Chicago, is chairman of the Committee on Hotels, and will take pleasure in helping members and Fellows to secure comfortable accommodations.

Members of the House of Delegates who have not secured reservations should write at once to the Drake Hotel for such accommodations as they desire. *Tentative* reservations have been made at the Drake for all members of the House of Delegates, but they must advise the hotel as to just what they want and make the final reservations. It will be necessary to release rooms that have been tentatively reserved, but not called for by delegates, within a reasonable time before June 9.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Hospital Addition.—An addition will be erected at the Warner-Brown Hospital, El Dorado, at a cost of $75,000. Construction work will start this month. The new building will be four stories high with a capacity of forty beds.

CALIFORNIA

Los Angeles County Medical Society.—At a meeting of the society, March 20, Dr. Arthur Dean Bevan, Chicago, spoke on "Surgical Treatment of Gastric Ulcer," and Dr. Frederick A. Speik on "Medical Treatment of Gastric Ulcer."

Modesto Physician Cited.—The secretary of the state board of medical examiners has ordered Dr. Reginald Lessing Sturges, Modesto, to appear before that board in San Francisco, July 8, to show cause why his license to practice in California should not be revoked. Dr. Sturges is accused of the habitual use of narcotics, it is reported.

Chiropractic Board Dissolved.—All five members of Governor Richardson's board of chiropractic examiners were ordered removed from office, March 18, in a decision by the state supreme court, on a ruling that they do not possess the qualifications for office fixed by the initiative law which created the board. The court held that none of the examiners had a license from the state board of medical examiners qualifying them to practice.

University News.—The new laboratory building erected on the campus of the California Institute of Technology at Pasadena has been completed, and apparatus comprising four 250,000-volt transformers is being set up.——The following promotions have been made for the year 1924-1925 at Stanford University School of Medicine, San Francisco: Dr. Jean R. Oliver from associate to professor of pathology; Dr. Edward B. Towne from assistant professor to associate professor of surgery; Dr. George DeF. Barnett from assistant clinical professor to associate professor of medicine, and Maurice L. Tainter from assistant to instructor in pharmacology.——In connection with its summer courses in public health the University of California, Berkeley, is offering a course especially planned for the intensive training of clinicians and clinical technicians in the diagnosis of parasitic protozoan infections in man. The course is given with special reference to amebiasis. This course will be given from June 23 to July 11 by Prof. Charles A. Kofoid.

DELAWARE

Personal.—Dr. Jeanette B. Stubbs has been elected to the board of health, Wilmington, to succeed Dr. Harvey A. Murray, who resigned.

DISTRICT OF COLUMBIA

Cup Presented to Dr. Eliot.—Dr. George Llewellin Eliot was presented with a silver loving cup on behalf of the faculty of Georgetown University, March 10, to commemorate the anniversary of his graduation fifty years ago. Dr. George M. Kober, dean of the university, made the presentation at a reception at Dr. Eliot's residence in Washington. Dr. Eliot was formerly president of the Washington Medical Society and is still in active practice at the age of 71.

GEORGIA

Hospital News.—The contract has been awarded for the erection of the John D. Archbold Memorial Hospital building at Thomasville at a cost of $464,000.

Dr. Abercrombie Goes to The Hague.—Dr. Thomas F. Abercrombie, secretary of the state board of health, Atlanta, has been appointed by the Surgeon General, U. S. Public Health Service, to represent the United States at the International Congress on Public Health and Preventive Medicine to be held at The Hague, April 24, under the direction of the League of Nations.

IDAHO

State Medical Examiners Named.—The commissioner of law enforcement has named the following members of the state medical examining board: Drs. Abram M. Newton, Pocatello; Leo W. Chilton, Nampa; Charles R. Scott, Twin Falls; Fred A. Pittenger, Joseph R. Numbers and George Collister, all of Boise. The board will meet, April 1, to examine candidates who apply for licenses to practice medicine in Idaho.

ILLINOIS

Herb "Doctor" Fined.—According to reports, Herbert C. Kane, a herb "doctor" of Champaign, was fined $100 and costs and sentenced to thirty days in the county jail, March 8, for practicing medicine without a license.

Hospital News.—The contract has been let for a $20,000 addition to the St. Anthony's Hospital, Effingham, including an operating room and sterilizing department.——The Marion Hospital, Marion, a new institution, located in the former Emma Jones Hospital building, has recently been opened.

Venereal Clinic Continued.—The city council of Princeton has agreed with the state department of health to pay $400 toward the salary of the medical director of the city venereal clinic and to provide the equipment and medicines used; $1,200 a year is now available to maintain the clinic.

Chicago

Nursing Education Council.—At the annual meeting of the Central Council for Nursing Education, March 7, Mrs. George W. Dixon of Chicago was elected chairman. This council sends speakers to schools and colleges to instruct pupils regarding nursing and to advocate nursing as a profession for girls.

Personal.—Dr. Cecil T. Heidel has been appointed medical director of the Chicago Infant Welfare Society, succeeding the late Dr. Walter F. Winholt.——Dr. Joseph Boltop, surgeon, U. S. Public Health Service, has been relieved from duty in Chicago and appointed superintendent of the Hot Springs National Park, Ark., to succeed Dr. Clarence H. Waring.

University News.—At the one hundred and thirty-second convocation at the University of Chicago, March 18, President Burton announced a joint gift of $1,400,000 from the Carnegie Institute, John D. Rockefeller, Jr., and the Friendship Fund endowed by Charles R. Crane. New building plans for the university ranging from a $6,000,000 library unit to the construction of a cooperative apartment building for faculty members were discussed.

Program for Dr. Finkelstein.—The following program has been arranged for Prof. Heinrich Finkelstein, professor of pediatrics in Berlin, during his stay in Chicago: Monday, April 7-12, Norwegian-American Hospital, 11 to 12; Wednesday, April 9, Chicago Medical Society; Monday, April 14, Northwestern University Medical School; Tuesday, April 15, Rush Medical School; Tuesday, April 15 (evening), Chicago Pediatric Society; Thursday, April 17, Loyola Medical School; Friday, April 18, Children's Memorial Hospital, and Saturday, April 19, University of Illinois Medical School.

IOWA

State Board Enlarged.—The bill submitted by the code commission to enlarge the state board of health has passed the house. The board, under the new bill, would be composed of nine scientists and technical men from the state educational institutions, nine professional men and six state officers. This increases the members of the board from eleven to twenty-four.

Personal.—Dr. Edward A. Hanskew, Bellevue, has been elected director of the state board of the Iowa Tuberculosis Association succeeding Dr. David N. Loose, Maquoketa.——Dr. Don M. Griswold, Iowa City, state epidemiologist, gave an illustrated address on "Hygiene as the Life Insurance Company Sees It," before the Cedar Rapids Life Underwriters' Association, February 9.

LOUISIANA

State Board Closes Laboratory.—It is reported that Dr. Oscar Dowling, president of the state board of health, announced the closing of the Bacteriologic Laboratory at Shreveport, February 15. The board, it is said, has also offered for sale 640 acres of land near Alexandria on which it had planned to erect a tuberculosis sanatorium. The laboratory work which was done at Shreveport will now be

carried on at the Charity Hospital, New Orleans. It has been planned for some time to sell this land but it was only recently approved by the governor.

MAINE

Reciprocation with Montana.—The state board of registration in medicine has announced that reciprocal relations in the matter of medical licensure and registration have been made with Montana.——The board will meet in Augusta, July 15-16.

MARYLAND

Personal.—Dr. Rupert Blue of the U. S. Public Health Service and Dr. Noble P. Barnes of Washington, D. C., were the guests of honor and principal speakers at the sixth annual banquet of the West Baltimore Medical Association, March 19. ——Dr. Eugene R. Kelley, commissioner of public health of Massachusetts, delivered a public lecture on "The Evolution of Our Ideas on Infection" at the School of Hygiene and Public Health, Johns Hopkins University, March 24.——Dr. George E. Pfahler, Philadelphia, was the principal speaker at a joint meeting of the Baltimore City Medical Society and the Section on Roentgenology, March 21, at the Medical and Chirurgical Faculty Building, Baltimore. His subject was "Radiation in the Treatment of Carcinoma of the Breast."—— Dr. Josiah S. Bowen, deputy state health officer for Baltimore County, spoke on "Communicable Diseases and Their Prevention" at a meeting of the First District Public Health Association at Catonsville, March 20.——Dr. Victor F. Cullen, superintendent of the State Sanatorium, has been awarded the Knighthood of St. Gregory by Pope Pius XI, in recognition of work in tuberculosis in Maryland.

Conference at Johns Hopkins Hospital.—A conference of deans and professors and representatives of the Rockefeller Foundation was held, March 20-21, at the Johns Hopkins Hospital to discuss the full-time teaching system. Group conferences were held in the departments of medicine, surgery, pediatrics, obstetrics, gynecology and psychiatry. Those attending the conference were: from Yale: Dr. Francis Gilman Blake, professor of medicine; Dr. Arthur H. Morse, professor of obstetrics and gynecology; Dr. Edwards A. Park, professor of pediatrics; Dean Milton C. Winternitz; Dr. Samuel C. Harvey, professor of surgery, and Dr. Willard C. Rappleye. From Washington University: Dr. William McKim Marriott, professor of pediatrics; Dr. Evarts A. Graham, professor of surgery; Dr. Ralph A. Kinsella, professor of medicine and psychiatry; Dr. David P. Barr, professor of medicine, and Dr. Samuel W. Clausen, professor of pediatrics. From University of Rochester: Dr. William Sharp McCann, medicine; Dean George Hoyt Whipple; Dr. Karl M. Wilson, obstetrics; Dr. John J. Morton, Jr., surgery, and Dr. Stanhope Bayne-Jones, bacteriology, and from the Rockefeller Foundation: Dr. Simon Flexner, Abraham Flexner, Dr. Rufus I. Cole, Dr. Alan Gregg and Roger S. Greene.

MASSACHUSETTS

Boston Medical History Club.—At a meeting of the club, March 17, Capt. Frank L. Pleadwell, M. C., U. S. Navy, gave an address on "A New View of Elisha North and His Treatise on Spotted Fever, Based on a Recently Discovered Manuscript," and Dr. Fred B. Lund spoke on "Medical Allusions from Herodotus."

Naturopath Fined.—According to reports, Gordon H. Walker, "naturopathic practitioner" of Boston, was fined $100 in the Quincy court in February on a charge of illegal practice. Walker exhibited a diploma from the Blumer College of Naturopathy, Hartford, Conn. (THE JOURNAL, Dec. 15, 1923, p. 2038).

Tufts Alumni.—The first meeting since the World War of the Tufts College Medical School Alumni Association was held in Boston last month. Dr. Charles Whelan was elected president and Dr. Edward Martin, secretary-treasurer. The guests of honor and speakers were: President Cousens of Tufts College; Dean Stephen Rushmore of the medical school and Dr. Timothy Leary.

MICHIGAN

Chiropractor Jailed.—According to reports, Judge Gilbert sentenced J. F. A. DeJordy, chiropractor of Boyne City, to seventy days in jail and fined him $100 and costs in the circuit court at Charlevoix, March 10, for practicing medicine without a license.

Diabetes in 1923.—A slight decrease in deaths from diabetes was noted in 1923 in Michigan. There were 635 deaths from diabetes last year; 650 in 1923; 586 in 1921; 577 in 1920, and 559 in 1919. Of the 635 persons who died last year, 328 were women, and 307, men.

Medical Library.—The medical branch of the Detroit Medical Library now occupies the entire first floor of the Mullet Street building of the Detroit College of Medicine and Surgery. The library receives an annual appropriation from the city and is available to all citizens as well as the physicians and medical students.

Personal.—Dr. William A. Evans, Detroit, has been named a member of the board of health succeeding Dr. Francis Duffield.——Dr. Carl V. Weller has been made a full professor in pathology at the University of Michigan Medical School, Ann Arbor, and assistant director of the pathologic laboratory, by Dean Cabot.

NEW HAMPSHIRE

Dr. Duncan Resigns.—Dr. Charles Duncan, Concord, after nine years' service, has resigned as a member of the board of education. He will continue as secretary of the state board of health.

Hospital Additions.—An addition and alterations will be made at the Elliot Community Hospital, Keene.——The New Hampshire Memorial Hospital for Women and Children, Concord, expects to occupy the new wing by June 1.

NEW JERSEY

Medical Examiner Appointed.—Dr. Henry B. Diverty, Woodbury, has been appointed a member of the state board of medical examiners by the governor.

New Research Laboratory.—The opening exercises of the new research laboratory of the Physiatric Institute at Morristown, were held, March 15. The speakers at the afternoon meeting and at the dinner in the evening were: Prof. Graham Lusk, Ph.D., and Dr. Eugene F. DuBois of the Cornell University Medical School and the Russell Sage Institute of Pathology; Dr. Wells P. Eagleton, president of the New Jersey State Medical Society; Dr. David C. English, editor of the *New Jersey State Medical Journal;* Dr. David F. Weeks, superintendent of the State Village for Epileptics at Skillman; Dr. Marcus A. Curry, medical director of the State Hospital at Morris Plains; and Drs. Frederick M. Allen, James W. Sherrill and other members of the staff of the institute. The laboratory is a two-story fireproof building devoted entirely to animal experimentation.

NEW YORK

Bonus to Secure Physician.—The town of Hartford in Washington County recently offered a bonus of $500 to secure a physician following the death of Dr. Robert H. Lee. Dr. Charles N. Sarlin, formerly of Luzerne and New York City, has located in the town.

Vaccination Reports.—A bill has been signed by Governor Smith, which amends Section 311 of the Public Health Law, by providing that reports of vaccination shall be made to a local health officer, who must report monthly to the state health commissioner. The physician's report must show whether on reexamination after proper interval vaccination was found to be successful or not.

State Acquires Social Hygiene Plant.—The state has taken title to the social hygiene plant established by John D. Rockefeller, near the State Reformatory for Women at Bedford. The plant is said to have cost $400,000, but was turned over to the state for $175,000. It includes three large buildings and seventy-one acres of land. With this institution the state has facilities for the classification and treatment of prisoners, and is in a better position to care for psychopathic young women.

Bills in the Legislature.—A bill is before the legislature to amend the education law to require the study of artificial respiration by all pupils in schools under control of the state or supported partly or wholly by public money, below the third year of high school. The bill provides that the method of Schäfer be taught for the restoration of persons rescued from drowning, asphyxiated by gas, or having received an electric shock.——Another bill provides for the licensing of private institutions for the treatment of drug addicts.

New York City

Kings County Medical Society.—The society recently issued the first number of a monthly bulletin.——At the meeting,

February 19, Ernest Harold Baynes, Boston, spoke under the auspices of the Friends of Medical Progress; George W. Whiteside spoke on legislation, and the president of the state society, Dr. Orrin Sage Wightman, spoke on "The Relation of the State Society to the Physician."

"Blizzard Class" Reunion.—The thirty-sixth anniversary of the "Blizzard Class" of Bellevue Hospital Medical College, which graduated, March 12, 1888, the day of a memorable snowstorm, will be celebrated this year, April 12, at 6:30 p. m., by a dinner at the McAlpin Hotel. The host of the class will be, as last year, Dr. D. Hunter McAlpin. If any member of the class did not receive an invitation, it was because his address was unknown. Should such persons desire to be present, please notify the acting secretary, Dr. S. Adolphus Knopf, 16 West Ninety-Fifth Street, New York City.

New Service for Mothers.—At the annual conference of executive secretaries of the county tuberculosis and public health committees of the State Charities Aid Association recently held in this city, Dr. Florence McKay, director of the division of maternity, infancy and child hygiene of the state department of health, called attention to the organization of mothers' helpers bureaus. The object of these bureaus is to provide helpers who can go into the homes and help with household duties at the time of confinement. Dr. McKay believes that such bureaus should be established in every community. Instructions as to how to organize such bureaus will be sent on application to the Division of Maternity, Infancy and Child Hygiene.

Quacks Arrested.—In the campaign to rid Brooklyn of illegal medical practitioners, the special service squad recently arrested four men. Paul Lola, Manhattan Avenue, told the police he had been an Episcopal clergyman. Hypodermic needles and other medical equipment found in his office were confiscated by police; Joseph Fillipi, Montrose Avenue, was arrested, March 14, when he prescribed for a policewoman; Louis Sussman, Hewes Street, arrested, March 14, charged with practicing medicine without a license, was held in $1,500 bail; Leonard Rothfield, Lafayette Avenue (follower of Abrams), was arrested, March 14, when he made an "electrically-directed" diagnosis for a policewoman. Assistant District Attorney Palmer who is directing the campaign against quacks in Brooklyn is acting on information furnished by the Kings County Medical Society.

Williamsburg Hospital to Be Health Center.—The old Williamsburg Hospital is to be turned into a great cooperative health center, in which will be brought together all the welfare and health agencies, public and private, working in the district. A meeting to further the plan will be held in the Brooklyn Chamber of Commerce, March 27, to which representatives of the various organizations working in Williamsburg have been invited. The proposed health center will be modeled on the plan of the East Harlem Health Center experiment launched two years ago. Since its opening this center has given 110 per cent. more service to the residents of the district than they previously had, and at an increase of only 11 per cent. in cost. The plan to build a new Williamsburg Hospital building was abandoned when it was found that other hospitals in the district were sufficient to care for the population of that locality, and the funds collected for that purpose by the trustees will be used to support the new project. The Williamsburg Hospital proposes to supply and operate the building, fill needed gaps in the service, and through making the center possible, offers each agency a broader opportunity in the district, the population of which is largely foreign.

OHIO

Physicians Fined.—Fines of $20 and costs were assessed on six physicians practicing in Jefferson County, following prosecution by the state department of vital statistics for failure to make birth reports in compliance with the law, it is reported. ——According to reports, Dr. Chambers J. Penn, Piketon, was fined $15, March 4, for failure to report to the registrar of vital statistics the birth of a child.

Hospital Facilities.—In the annual report of the bureau of hospitals just made public, it is stated that there are 2.06 beds per thousand population available for the entire population of which an average of 60.5 per cent. were in use. Hospitals with one to four beds and those with 500 and more have the lowest per diem costs in the order named, while those with between five and fourteen beds have the highest costs. The average per diem cost of hospital service was somewhat lower than in the previous year. Twenty-seven of the eighty-eight Ohio counties are without hospital facilities. Hospital deaths averaged 49.9 per thousand patients. There are 303 hospitals in the state, representing a capacity of 31,748.

OKLAHOMA

County Medical Bulletin.—The Oklahoma County Medical Society has recently issued a *Bulletin*, edited by Dr. William H. Bailey, Oklahoma City, president of the society. The *Bulletin* will be published bi-weekly.

PENNSYLVANIA

Pneumonia Cases Quarantined.—It was announced by the city health department of Pittsburgh, March 20, that after April 1 all pneumonia cases will be quarantined. This action has been taken in an effort to stop the spread of pneumonia which has been prevalent in the city recently.

Food and Chemistry Bureaus Merged.—A merger of the bureau of foods and the bureau of chemistry of the Pennsylvania Department of Agriculture has been announced. The new unit is the Bureau of Foods and Chemistry, with James Foust as director and James W. Kellogg as assistant director and chief chemist.

National Medical Congress in 1926.—At a meeting of the Philadelphia County Medical Society, February 27, the following resolution was adopted:

Resolved, That the president of the Philadelphia County Medical Society be, and now is, a member of its committee on the Sesqui Centennial Celebration of the Signing of the Declaration of Independence.

Resolved, That that committee report at the next meeting of this society a plan for assembling in Philadelphia in 1926, in association with the Medical Society of the State of Pennsylvania, a National Medical Congress, the purpose of which shall be to emphasize the progress of medical and surgical science and hygiene in the United States of America in the last fifty years.

Philadelphia

Physician Imprisoned.—After a two year struggle to set aside the sentence, Dr. William H. Bricker, Jr., Philadelphia, was taken to Trenton, March 11, to serve from thirteen to twenty years in the state prison for malpractice, according to reports. His father, Dr. William H. Bricker, Sr., is serving a term of from four to six years in the Eastern Penitentiary, Philadelphia, for a similar offense.

Promotions at the University.—On March 18, President Josiah Penniman announced the promotion of members of the faculty in the different departments of the University of Pennsylvania. In the Graduate School of Medicine, Dr. Gabriel Tucker was promoted to associate professor of bronchoscopy and esophagoscopy; Dr. Louis H. Clerf, assistant professor in the same subjects, and Dr. Ellice McDonald, assistant professor of gynecology.

Consultation Service.—Under supervision of Dr. A. J. Ostheimer, medical director of the mental health division of the Public Charities Association of Pennsylvania, a consultation service in mental health was opened, March 10. The service will give advice to relatives, friends, teachers and others interested in mental health problems. Patients will not be examined or treated. On receipt of information, the medical director will give advice as to the proper disposition of the individual concerned. Information will be given as to the places and opportunities for treatment in each case. Whenever treatment is indicated that may assist in untangling personal problems, the method of obtaining the treatment will be outlined to those interested. There will be no charge for the service and interviews will only be given by appointment.

Personal.—Dr. Thomas McCrae, Philadelphia, will deliver the Lumeleian lectures before the Royal College of Physicians, London, England, April 3, 8 and 10. His subject will be "Foreign Bodies in the Air Passages," from the viewpoint of a physician.——Dr. Wilmer Krusen, director of public health spoke before the Business Science Club, March 7, on health topics.——Dr. Arthur Biedl, professor of experimental pathology in the University of Prague, was the principal speaker at the meeting of the Philadelphia County Medical Society, March 12. His subject was: "Some Questions of Thyroid and Hypophyseal Pathology."——Dr. Arnold R. Rich, department of pathology of the Johns Hopkins Medical School, was the guest speaker of the Pathological Society at its meeting in the College of Physicians.——Dr. Chevalier Jackson, professor of bronchoscopy and esophagoscopy at the Jefferson Medical College, was presented with the Kiwanis Club medal, March 11, "for the greatest service to fellow citizens during the last year" in recognition of his work as a surgeon and his invention of the bronchoscope.——Dr. William A. Pearson has been named a member of the board of trustees of the Allentown State Hospital by the governor.

RHODE ISLAND

Mental Hygiene.—Among present activities of the Rhode Island Society for Mental Hygiene is a course of ten lectures, in cooperation with Brown University, on the mental health of children. These lectures given at the university Monday evenings, commenced February 25. The speakers were Drs. George K. Pratt, Abraham Myerson, Douglas A. Thom, A. Warren Stearns, Martin W. Peck, Arthur H. Ruggles and William B. Terhune. The society has also established a mental health clinic at Central Falls which will be held one day a week. Dr. Pratt, medical director of the Massachusetts Society for Mental Hygiene, is consultant.

TENNESSEE

Physician Sentenced.—According to reports, Dr. N. M. Baldwin, Knoxville, convicted of violation of the Harrison Narcotic Law, was sentenced, February 29, to three years in the Atlanta penitentiary and to pay a fine of $500.

Society News.—The Loudon County Medical Society elected the following officers at its regular meeting, February 13: president, Dr. Gid M. Hall, Lenoir City; vice president, Dr. Halbert Robinson, Lowdon, and secretary-treasurer, Dr. James G. Eblen, Lenoir City.

TEXAS

New Medical College Building.—The permit was issued, March 12, for the erection of the new laboratory and museum building of the University of Texas Department of Medicine, Galveston, at an estimated cost of $345,753. Work has already started on the foundations.

VIRGINIA

Chiropractors Fail.—During the meeting of the state legislature two bills were presented by different sets of chiropractors. One called for the creation of a chiropractic board and the other requested that a chiropractor be placed on the Virginia State Board of Medical Examiners. Both were killed in different committees.

Personal.—Dr. Rudolph Teusler, formerly of Richmond, was decorated with the Order of the Sacred Treasure, at ceremonies held in Tokyo in February. Dr. Teusler is director of St. Luke's International Hospital at Tokyo, a member of the American embassy staff and the American Episcopal Mission.——Dr. Edgar L. Sutherland has been appointed health director of Suffolk.—— Dr. Arthur Biedl, professor of endocrinology, University of Prague, spoke on "Cerebral Adiposity" before the Richmond Academy of Medicine, February 26.

WEST VIRGINIA

Huntington Selected for Survey.—Huntington has been included in the survey to be made by the American Child Health Association in sixty-eight cities. Dr. Edward Stuart is conducting the survey in cooperation with Dr. Earl B. Gerlach, city health officer. Surveys have already been completed in seventeen cities.

WISCONSIN

Chiropractor Sentenced.—According to reports, Charles G. Pallota, Fond du Lac and Princeton, chiropractor-tailor, was sentenced to one year in the house of correction, recently, on a charge of practicing medicine without a license.

Personal.—Dr. William T. Fletcher, Salem, has been appointed roentgenologist to St. Catherine's Hospital, Kenosha.——Dr. Raymond L. Kenney, Madison, has been appointed chief of staff at the Wisconsin Psychiatric Institute by the state board of control.——Dr. Morton K. Green, assistant at the State Hospital for the Insane, Mendota, has been named superintendent of the institution to succeed Dr. Frank I. Drake, who resigned.

CANAL ZONE

Hospital News.—The Panama government is creating four small hospitals in the interior of the republic to handle cases which cannot be transferred to Santo Tomas Hospital, Panama. In Colon an old building formerly a court house and fire station has been transformed into a hospital. It is known as the Colon Charity Hospital and is under the direction of Dr. Joseph Perez. It has thirty ward beds and eight private rooms.—— The Ancon Hospital is installing a complete, modern hydrotherapeutic room. A similar installation is being made at the Corozal Hospital.—— Dr. Herman F. McChesney, Brooklyn (N. Y.) Hospital, and Prof. Harrison Dyer, entomologist of Washington, D. C., recently visited the hospitals in the Zone.

CANADA

Personal.—Dr. Sagora Ogawa, director of the Kyoto Medical College, and his colleague, Dr. S. Toda, visited the Banting Laboratories, Toronto, recently.——Edward H. Boomer, graduate of McGill University, Montreal, has been awarded the Canadian Fellowship of Chemical Science valued at $2,700. Mr. Boomer in 1923 was awarded the Ramsay scholarship, under the terms of which he has been working at the University of Cambridge, England.

GENERAL

Vocational Rehabilitation.—House bill 5478 provides for the promotion of vocational rehabilitation of disabled veterans and authorizes an appropriation to states of $1,000,000 annually, provided the states appropriate an equal amount.

Dr. Holt's Bequests.—Under the will of the late Dr. Luther Emmett Holt, who died in China, $25,000 is left to the Babies' Hospital, New York, and $25,000 to the Columbia University for a fellowship in the medical department. His secretary also receives $25,000.

Lye Legislation.—It has been announced by the chairman of the Committee on Lye Legislation of the American Medical Association that the lye bill has passed both houses of the New Jersey legislature and also of South Carolina. Four states have now passed the bill.

Appropriation for German Relief.—The House of Representatives adopted a resolution by a vote of 240 to 97, March 24, to appropriate $10,000,000 to purchase food supplies for destitute women and children in Germany. The measure, which now goes to the Senate, stipulates that the foodstuffs are to be bought in the United States and transported to Germany in shipping board vessels.

German Book to Be Translated.—The Optical Society of America will publish a complete translation of the third edition of Helmholtz's Handbuch der physiologischen Optik, edited by James B. C. Southall, professor of physics, Columbia University, New York City. The work will be issued in three volumes practically in the same style as the original German edition, with the same illustrations and plates. The first volume will be ready in June, and the edition will be limited to 1,000 copies.

Industrial Alcohol Users Protest Cramton Bill.—Protests are being received from manufacturers using denatured alcohol for industrial purposes against the passage of the Cramton bill pending in the House of Representatives which proposes the transfer of the control of the manufacture, distribution, sale and use of alcohol from the Internal Revenue Bureau to the Prohibition Unit. Manufacturers are going on record as protesting against this change for the reason that it has taken them several years fully to understand the department's requirements, and fear is expressed that if the Prohibition Unit takes over control there may be complications and new regulations issued tending to embarrass those engaged in the use of alcohol for legitimate purposes of industry.

Retrenchment Policy Emphasized.—In a letter to Senator Smoot, chairman of the Senate Committee on Finance, Secretary Mellon of the Treasury Department states he does not desire to express any opinion at present on the bill introduced by Senator Copeland, New York, to provide a commissioned status to sanitary engineers in the U. S. Public Health Service. Secretary Mellon states that he is advised that any legislation of this character would conflict with the financial policy of the President. It is assumed that the policy referred to is the program of retrenchment of government expenses. In another portion of the letter Secretary Mellon states that "if any legislation having in view the uniformity of appointment and status in the public health service is considered by Congress at any time, such legislation should include certain other highly qualified professional personnel as well as the sanitary engineers."

Child Health Association Planning Special May Day Celebration.—The American Child Health Association, with headquarters in Washington, D. C., is making preparations of national scope for the celebration of May Day, as a special occasion for calling the attention of the public to the importance of child health. The association, through its executive secretary, Mr. Courtney Dinwiddie, is enlisting the

support of prominent men in public and private life to emphasize the importance of awakening the public conscience to the cause of child health. The movement has been endorsed by President Coolidge. While emphasizing the progress which has been made in recent years in this field the Child Health Association points out that much remains to be done. While some communities are advanced, none are perfect. Some lack elementary necessities such as public health officers, water and milk inspection, and hospital facilities for children—not to mention regular health examinations, attention to mothers in child birth and scores of other needs. The association plans special publicity through the press, motion pictures, the radio and other means to increase constructive measures for the betterment of conditions surrounding child life.

Another "Impecunious Doctor."—Dr. Howard A. Kelly, Baltimore, writes: "On Thursday, March 6, a little, somewhat rather stout, pasty-looking man of about 63 years of age, announcing himself as Dr. C. C. Perry, living part of the time in England near London, but at present at Irvington-on-Hudson, N. Y., called to renew an old acquaintance and to chat with me about my old friend Dr. Atkinson, the former Secretary of the American Medical Association. He then told me an account of a detour to Pittsburgh in a trip to Washington, he had exhausted his funds and wanted to borrow $15 which he would return immediately on reaching home on Saturday. I feel ashamed to have fallen so easily to the wiles of another impecunious doctor running short of railroad fare. No restitution has been made and a letter addressed to the postmaster of Irvington-on-Hudson informs me that no such person is known there. I am sorry to be a living evidence of the fact that age and experience do not always bring wisdom, but I write this for the benefit of a younger generation to say that I never yet had a doctor appeal to me for funds of which he had run short on his journey in which the appellant was honest and deserving of help."

Additional Prize Essays.—Scholarships have been donated by various universities as awards in the American Chemical Society's Prize Essay Contest being conducted in high schools and secondary schools throughout the United States. These are in addition to the six four-year tuition scholarships to Yale University and Vassar College (THE JOURNAL, Nov. 3, 1923, p. 1532) given by Mr. and Mrs. Garvan of New York. The universities granting the additional scholarships are: the University of Arizona, two scholarships remitting all fees; the University of Iowa, one scholarship; the University of Kentucky, one, and the University of Mississippi, one. In South Dakota the Northern Normal and Industrial School at Aberdeen offers a prize of $25 for the best essay submitted in the state. In Texas the Baylor College for Women offers a scholarship to a prize winner worth $120 and the University of Texas also offers a tuition scholarship worth $120; the University of Utah, one scholarship, and Washington and Lee University in the state of Virginia, one scholarship. The Catholic University of America has announced that it will grant a four-year tuition scholarship worth $1,200. In addition to those named it is believed that various other institutions will grant scholarships to successful contestants.

Study of Contraception.—The "Committee on Maternal Health" has made a scientific study of "birth control" for one year. This group was organized in March, 1923, to take up clinical problems of fertility and sterility; to examine case histories in an office which would be one of record and reference only, and to formulate practical ways of getting answers to some of these questions. The policies, procedure and personnel are strictly under medical control. The medical group is large and representative. The approach to this particular problem has been carefully weighed, since clinical steps could be taken no faster than the profession was willing to go. The committee began by submitting its program to the New York Obstetrical Society and the Academy of Medicine, and held back to test their approval. A questionnaire sent out by the society brought a vote in favor of this study, and the public health committee of the academy endorsed these objects. The first complete study of the literature has been made, and a digest is ready for publication. The three birth control clinics, the Stopes and the Haire in London, and the new Sanger clinic in New York, have been inspected. For six of the leading hospitals of the city appropriations have been made to provide for collecting data, with the same approach that proved effective for tuberculosis. The opinions of authorities are largely gathered on the indications for the prevention or postponement of conception, and a study of the field for sterilization is under way. An American observer in Holland will sift conflicting reports concerning "that much quoted experiment station of birth control." The committee hopes to secure new studies from the continent, where the increase in abortion and the discussion of the abrogation of penalties for abortion have aroused a new consideration of contraception. The divergence of views on the medical aspects of the subject which the committee's analysis of three series of clinic reports and two questionnaires have developed indicate the lines on which further study should proceed. These are shown in the report, which is ready.

LATIN AMERICA

Smallpox in the West Indies.—Alastrim still continues despite the measures enforced against it. At present the disease is reported in Jamaica, Guadalupe, Cuba and Martinique.

Bust of Pasteur Presented to Uruguay.—The *Anales de la Facultad de Medicina* records the ceremonies at the presentation by the French government of a bust of Pasteur to the medical faculty of the University of Montevideo. The gift was made in appreciation of the local celebration of the Pasteur centennial.

FOREIGN

Epidemic of Typhus in Japan.—During the last ten weeks 1,739 cases of typhus have been reported in Tokyo with 395 deaths. The survivors of the recent earthquake and fire, living in huts and barracks, are the chief sufferers.

Free Insulin.—Following the action of Scotland in giving insulin treatment free to patients unable to afford it, a bill has been introduced into the House of Lords to provide the same right in England. The present cost of administering insulin to patients in the United Kingdom is from $1.75 to $2 per week.

Child Welfare in England.—The third English-Speaking Conference on Infant Welfare will be held in London, July 1-3, in conjunction with the materity child welfare group of the Society of Medical Officers of Health. The program will consist of the following: (*a*) The available measures for securing healthy pregnancy and safe delivery; (*b*) Education in relation to maternal and child welfare; (*c*) Child migration and child adoption; (*d*) Problems of the unmarried mother and her child; (*e*) Matters relating to crèches and day nurseries; (*f*) Public opinion on child welfare. The U. S. government has been invited to send a representative.

Personal.—Dr. Heinrich Finkelstein, Berlin, spoke on "Infant Feeding and Nutrition" before the New York Academy of Medicine, March 13. —— Dr. Schmalzried, American medical missionary, who was captured by the Chinese brigands, Nov. 13, 1923, near the Kueichow-Hunan border, was released, January 17. The local Chinese paid 18,000 strings of cash for his ransom.——Signorina Elena Angelucci of Rome has been appointed to the scholarship founded by the Italians of Pennsylvania at the Woman's Medical College at Philadelphia.——Dr. Fiterre was the guest of honor at a banquet given by the French-Cuban Medical Association at Paris on the completion of his graduate study at Paris as the first recipient of the fellowship founded by the society, which is generally known as the Joaquin Alberrán Society.——Dr. R. H. Steen has been appointed professor emeritus of psychologic medicine at Kings College Hospital, University of London.——Sir Paul Vinogradoff, University of Oxford, has been awarded the Swinery prize for 1924 for his "Outlines of Historical Jurisprudence." The prize is a cup valued at $500 and a check for $500. It is awarded every fifth year. ——Lieut.-Col. W. Glen Liston, M.D., Indian Medical Service, delivered the Milroy Lectures before the Royal College of Physicians of London, March 11, 13 and 18. His subject was plague. —— Dr. F. N. K. Menzies, London, has been appointed director of medical and hospital services of the joint committee of the Order of St. John of Jerusalem and the British Red Cross, to succeed the late Sir Napier Burnett. ——Prof. Albert Einstein has been awarded the gold medal of the Holland Society for the Progress of Natural Science by the Amsterdam University.——In recognition of her work with radium, Madame Curie has been granted the freedom of Warsaw.——Col. G. St. Clair Thom has been appointed superintendent of the Edinburgh (Scotland) Royal Infirmary to succeed Sir Joseph Fayner, who retires this year.

Deaths in Other Countries

Dr. **J. W. Mullen,** for forty-three years superintendent of the Salford (England) corporation hospitals, aged 66.—— Dr. **John McCaw,** clinical lecturer in children's diseases, Queen's University, Belfast, Ireland, author of "Aids to Dis-

eases of Children," February 22.——Dr. **Bernard H. Wedd**, former bacteriologist to the London School of Tropical Medicine, January 28, in Ceylon, India, aged 47.——Dr. **Campbell William de Morgan**, last of the line of this distinguished family of physicians, January 27, at St. Leonard's, England.——Dr. **K. Friedinger**, director for fifteen years of the Franz Joseph Hospital at Vienna, aged 63.——Dr. **E. Vallin**, dean of the French military medical service, aged 90.——Dr. **F. E. Crespo** of Rosario, secretary of the medical faculty.

CORRECTION

Health Conditions Among Indians.—In THE JOURNAL, March 22, page 983, it is stated that a comprehensive study of health conditions among the Indians is being made by the National Health Council. This should be corrected by the statement that the Council has not yet actually undertaken this survey, but has agreed to do so provided adequate funds are supplied to the Council from outside sources.

Government Services

Hospitals Authorized

Pursuant to instructions of the Secretary of War, the organization of the following general hospitals (organized reserves) has been authorized: General Hospital No. 17 (Harper Hospital Unit, Detroit); General Hospital No. 123 (St. Elizabeth's Hospital Unit, Lincoln, Neb.); General Hospital No. 24 (Tulane University of Louisiana Medical School Unit, New Orleans); General Hospital No. 78 (Newark City Hospital Unit, Newark, N. J.); General Hospital No. 124 (St. Mary's Hospital Unit, Minneapolis), and Evacuation Hospital No. 17 (Ellis Hospital Unit, Schenectady, N. Y.).

Honors Conferred on Surgeon-General Cumming

In a resolution introduced in the House by Representative Moore, of Virginia, authority would be granted to Surg.-Gen. H. S. Cumming, of the U. S. Public Health Service, to accept certain decorations of honor bestowed on him by France and Poland. These decorations include that of officer of the Legion of Honor of France, tendered by the French ambassador in the name of the Republic of France, and the decoration of the Order of Polonia Restituta, Grade Commander of the Star, tendered by the minister from Poland in the name of Poland. This resolution is introduced under the constitutional requirement that no officer of the government can be granted any office or title by a foreign state without the consent of Congress. The resolution provides that the Department of State be authorized to deliver these decorations to Surgeon-General Cumming.

Medical Section of Army Reserve

The Surgeon General of the Army has noted that a considerable number of reserve officers have failed to accept reappointment in the medical section. Members of the medical section are advised that all appointments in the reserve corps are for a period of five years, as provided by law. Notice of reappointment and oath of office is sent to reserve officers, whose commissions are about to expire, sufficiently in advance of the expiration date to permit acceptance and make the appointments continuous. Failure to accept before expiration date automatically separates the officer from the reserve corps, and reinstatement can be accomplished only through the formality of application as for original appointment. It is probable that failure to accept is due to misinterpretation of the promotion regulation previously announced in THE JOURNAL, which provides for promotion after each five-year period. Reserve officers are advised that these promotions are not made automatically. If reserve officers desire promotion under reappointment, they must apply for promotion to the corps area commander of the area in which they reside sufficiently in advance of expiration of appointment (about sixty days), so that reappointment may be possible in a higher grade. Officers who are offered reappointment, but who desire higher grade, should accept reappointment in the grade offered and at once apply for promotion. Cooperation on the part of reserve officers in promptly accepting reappointments will aid in promoting the progress of the reserve organization.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 3, 1924.

Award of Damages Against Physicians for Wrongful Detention as Lunatic

An action for damages against two physicians for wrongful detention as a lunatic, which has just terminated, after a trial lasting seventeen days, in the award of the unprecedented damages of $125,000, has produced a profound sensation and has led to a demand for the reform of our lunacy laws. Another extraordinary element in the case is that one of the two defendants against whom the damages were awarded is a commissioner in lunacy; that is, one of the experts appointed by the government to supervise the working of lunatic asylums. The other was the proprietor of the asylum in which the plaintiff was confined. The plaintiff was a farmer who, according to his evidence, suffered from nasal catarrh, which he believed he had contracted in 1908. In 1912 he was treated by a quack with what were alleged to be injections of tuberculin and which caused fever and delirium, but he said that he was absolutely sane when sent to an asylum. He was certified as deeply steeped in sex problems. He thought that the young should be instructed in sex matters and issued a pamphlet dealing with the subject. While in the asylum he wrote letters to the lord chancellor complaining of his detention, but without effect. In December, 1912, he was allowed out on probation in charge of his brother. He went to the offices of the commissioners in lunacy in London under the impression that his case was being inquired into. Here he was seen by Dr. Bond, one of the commissioners, who had him arrested and sent back to the asylum, where he was put under rigorous treatment, kept with the worst maniacs at night, and threatened with a padded cell. He was transferred to another asylum, where he acted as librarian for four and one-half years, cataloguing more than 1,000 volumes, for which he was thanked by the authorities. He was transferred from asylum to asylum.

After detention amounting to nine years, he escaped and evaded the vigilance of the police and his relatives for more than fourteen days. According to the law of this country, an escaped inmate of an asylum who eludes capture for this period becomes a free man and cannot be brought back. He was then examined by eminent experts who pronounced him sane.

The defense was led by the attorney-general, who represented the crown, since the commissioner in lunacy had acted in his official capacity. The attorney-general admitted that the case raised questions of great importance and said that he had been considering what, if any, statutory protection could be introduced to insure that no person should remain in an asylum without independent investigation. He thought that the best protection would be that at stated intervals an absolutely independent physician should be called in by the alleged lunatic or his friends, and if there was any question of disagreement the patient should have an absolute right to a second independent opinion. In his evidence, Dr. Bond, the commissioner in lunacy, said that the secretary informed him that there was an excited lunatic in the waiting room who insisted on seeing the commissioner. The file of papers relating to the plaintiff's case was brought to him, but he could not find out the reason for the visit. The plaintiff talked incoherently, not finishing his sentences. He wildly flourished a bag which jingled as though containing money, which he gathered had been obtained from the bank. The plaintiff became more excited, and Dr. Bond formed the opinion that

he was insane and unfit to be unattended. He telephoned to the asylum and was informed that the plaintiff had been discharged in care of his brother but had escaped from him. He therefore had the patient sent back to the asylum.

Asked by the judge as to his opinion of the present state of the plaintiff's mind, he said that the plaintiff had given his evidence in a perfectly sensible manner. He had never personally examined him as to his mental state. Several physicians, including one expert, gave evidence that the patient was insane, but their reasons mainly were that he was very excited and thought that he had a mission to preach. The judge said that nothing astonished him more in the case than that when a man is shut up in an asylum, although he may be perfectly sane, he is never allowed to know why he is there. He pointed out that the main question for the jury was the plaintiff's mental condition when he went to the offices of the commissioners in lunacy. Were what had been described in the medical evidence as delusions really delusions? The jury found that the plaintiff was sane and that neither of the defendants had taken reasonable care. They awarded the exemplary damages mentioned above, of which $87,500 was against the commissioner and $37,500 against the asylum proprietor. An appeal has been made against the verdict.

The case has caused great concern in the public as to lunacy administration, and in the profession it has increased the anxiety always felt as to the responsibility of certifying lunatics. In reply to a question in parliament, the prime minister said that there appeared to be a case for full inquiry and that the government was prepared to consider the setting up of an appropriate body. The lay press regards the verdict with satisfaction and has raised the alarm as to the number of sane persons detained among the 126,000 inmates of asylums. The certification process is declared to be full of dangers. The public is further alarmed by the discussion in the press of the question, Is there anybody sane? At the trial, the neurologist Dr. Risien Russell quoted with approval the statement of Sir George Savage, a leading alienist who died a short time ago: "No person is perfectly sane in all his mental faculties any more than he is perfectly healthy in body." Dr. Cox, medical secretary of the British Medical Association, says that it has been suggested by members that, until the position is cleared up, physicians should refuse to sign any further certificates of lunacy or, at any rate, to sign without being first given a certificate indemnifying them against possible damages.

Lister Memorial

A memorial to Lord Lister has been erected at Portland Place, London, his last place of residence. The memorial was executed by the late Sir Thomas Brock. It will be unveiled, March 13, by Sir Charles Sherrington, president of the Royal Society. Besides this monument, a tablet with medallion and inscription has been placed in Westminster Abbey, and the international Lister Memorial Fund has been established for the advancement of surgery. A sum of $2,500 with a bronze medal will be awarded every three years for distinguished contributions to surgical science, the recipient being required to give an address in London under the auspices of the Royal College of Surgeons. The award will be made by a committee of members nominated by the Royal Society, the Royal College of Surgeons of England, the Royal College of Surgeons in Ireland, the University of Edinburgh, and the University of Glasgow.

The School Training of the Physician

The head master of Westminster School, Rev. H. Costley-White, recently read a paper on the school training of the physician before the Kensington Division of the British Medical Association. He considered that the education of the future medical student up to the age of 16½ should be wide and general, and largely literary. He should learn the classics, Latin, Greek—particularly Greek—English literature, one modern language, history, mathematics and some science. The head master would add some esthetic studies, such as drawing, and, if the lad had any taste for it, music. An essential in a scientific profession was that a man should be able to express himself, both in speech and in writing, and that he should gain as wide a culture and as delicate a balance of mind as possible by the scientific method. But the scientific method could be inculcated in the learning of a language and history as well as by science. It was untrue to suggest that in Latin and Greek the mind was not working on scientific lines. Moreover, in these studies the faculty of imagination was being developed, and imagination was not a "brilliant faculty of lying" but the power of seeing things hidden from the casual eye. He did not think that the boy at school should be introduced to the anatomy and physiology of the human body. He was too young for such studies, and it was necessary to deal very tenderly with the nervous and moral balance of a boy of 16 or even of 18. Manners were important to the physician; they were the external expression of an attitude of mind. It was one of the advantages of a literary culture that it developed taste; he was not sure that this could be said for lessons that involved dabbling in test tubes. To teach taste, as Ruskin said, was to form character, and with taste and character would come manners. The true physician would recognize also that science was not going to explain the world. However deeply it probed, science could not explain the meaning of personality. The scientific world was a world phenomenon in which certain sequences could be listed. But beyond these sequences was philosophy, which would suggest the real causes and origins of things, and it was this philosophy that made the boy and the man humble and gentle and helped to form that character which would make him a worthy member of this greatest of professions.

A Color Problem in a British Colony

The colony of Kenya presents a difficult problem to the British government. It contains a native African population of more than 2½ millions, 10,000 Europeans, 10,000 Arabs and 23,000 East Indians. The government of the country is in the hands of the Europeans, but of late years the Indians have begun to claim equal rights; and the political agitators in India have seized on the present situation for virulent denunciation, at a time when the British government is doing all that it can to satisfy Indian aspirations by a scheme of self-government.

The Kenya Indians have been granted a franchise, but a separate one from that of the Europeans, and have the power to return a certain number of members to the legislature. But this reform does not seem to have appeased discontent either there or in India. One of the things to which the Indians object is segregation. An expert on tropical medicine, Sir W. J. Simpson, was sent to Kenya some time ago to advise on the sanitary condition, and recommended segregation. His view has been endorsed recently by the local branch of the British Medical Association. But the home government has now reversed this policy. In an official paper, the policy of segregation is described as having been based on sanitary and social grounds. Commercial segregation has already been discontinued. But, in regard to residential segregation, matters have been in suspense. The official paper declares that it is now the view of competent medical authorities that, as a sanitation measure, segregation of Europeans and Asiatics is not absolutely essential for the preservation of the health of the community; the rigid enforcement of sanitary, police and building regulations, without any racial discrimination, will suffice.

PARIS

(From Our Regular Correspondent)

Feb. 29, 1924.

The Decrease in Syphilis

Dr. Paul Salmon of the Pasteur Institute published recently an article in the *Revue d'hygiène* entitled, "The Disappearance of Syphilis." The term "disappearance" is no doubt an exaggeration, but it is nevertheless true that syphilis in its virulent form is becoming less frequent. Reports from various cities of France seem to establish this fact. At Lyons, Dr. Lacassagne, who is charged with the supervision of public women, states that chancres are no longer seen. According to Dr. Carles, the number of infected women in Lyons decreased one third from 1911 to 1921. A physician of Saint Etienne stated recently that among his clients at the hospital and at the dispensary for registered prostitutes, syphilis had diminished considerably. At Strasbourg, Dr. Pautrier reported that the substitution of medical supervision for the former police supervision of prostitutes has reduced the amount of infection.

Dr. Salmon of Paris has reached the same conclusion. Desiring to obtain syphilitic virus for laboratory experiments, he found in the Midi-Cochin Hospital, one morning, only one patient with open lesions; before the war, at every consultation hour, he saw from five to eight patients with open lesions. Dr. Guenot, assistant consultant at the same hospital, said that sometimes he finds only one case of recently acquired syphilis during an entire week. The Midi-Cochin Hospital is a hospital for men who have venereal disease. It may be regarded, to some extent, as an indicator of the incidence of syphilis in Paris. The dispensaries have noticed the difference also. Dr. Salmon visited a much frequented dispensary to obtain spirochetes, and he had considerable difficulty in finding a patient with open lesions.

How are we to explain the decrease in syphilis? It is unquestionably true that syphilis is treated more efficiently than formerly. Arsenic and bismuth destroy spirochetes with an effectiveness formerly unknown. But other factors must be considered. There have been changes in the habits of women and men. Prostitution seems to be reducing the number of its recruits. In these times of economic stress, it is more difficult for the prostitute to make a living. Prostitutes have raised their rates, which has resulted in decreasing patronage. Then, professionals have a vast amount of competition. Since the war, the number of salaried women resorting to immorality to supplement their income has increased, and many women of this class have replaced professional prostitutes. Syphilis was common among public women, but it is rare among these young working women. On the other hand, it must not be forgotten that war eliminated two million men in the most active period of their life. And the war was followed by an "epidemic" of marriages, which withdrew from circulation, as it were, many potential victims of syphilis. Finally, the army returned to civil life syphilitics, to be sure, but syphilitics who have had intensive treatment. Thus, military medicine, during the war, played an effective prophylactic rôle.

Salmon concludes that, to eradicate syphilis, the most important thing is to perfect the treatment and make it truly sterilizing, such as Ehrlich planned. But medical treatment will not alone suffice. Treatment from a moral and social angle is needed. Prostitution is a reservoir for the virus. We must therefore concentrate our efforts on reducing prostitution. The hospital-prison of Saint Lazare in Paris is to be demolished. Salmon says that, instead of building a new hospital-prison and retaining police supervision of prostitutes, it would be better to use that money to finance a crusade against prostitution. To come to the aid of prostitutes, who, in the main, are the victims of wretched living conditions, would be a work of true feminine uplift.

Committee on Hygiene of the League of Nations

The Committee on Hygiene of the League of Nations, at its recent session at Geneva, discussed questions pertaining to the sanitary administration of the Far East. It recommended the creation of a bureau of epidemiologic information in some port to be designated by agreement between the governments concerned. It recommended that the report of the commission of inquiry, containing the draft of a sanitary convention between these countries, be transmitted to the governments of the Far East. The committee earnestly requested that the commission on epidemics take the initiative in an inquiry, or at least participate in investigating the epidemics of plague that have been reported in the Kirghiz republic and among the Kalmucks of Asiatic Russia; and collaborate in epidemiologic research on typhus fever and cholera already begun in Russia.

Lodgings for Students

Public opinion in Paris has been aroused of late by the expulsion of a number of students from lodgings that they occupied in hotels of the Latin Quarter. The minister of public instruction has instituted an inquiry, the result of which was that he decided to create a students' aid committee. The president of the university will be the chairman; and influential persons whose collaboration promises to be particularly helpful will be members. This committee will aid the joint committee of the Société des amis de l'université and the Conseil de l'université. The most urgent needs of students can be met in this manner. A conference will be called by the minister of public instruction of the best qualified representatives of the public services to find quarters for students obliged to evacuate their present lodgings.

Dispensing Narcotics

Dr. Hartenberg recently called the attention of the Syndicat des medecins of the department of the Seine to the difficulties that physicians encounter in procuring cocain and morphin. To be sure, the law permits physicians to prescribe the amount of morphin they desire, on condition that they conform to certain regulations. But pharmacists often refuse to dispense these drugs for fear of the law, and there is no law to compel a pharmacist to dispense a preparation called for in a prescription. The suggestion has been offered that the government furnish physicians with identification cards that will entitle them to secure the drugs, and thus protect pharmacists against illegitimate demands.

Death of Dr. Emile Vallin

Dr. Emile Vallin, medical inspector-general, died recently at Montpellier, aged 90. He was born, Nov. 28, 1833, at Nantes, where he did his preparatory and university study. He became hospital intern, then prosector in the Ecole de médecine of Nantes, and presented his doctor's thesis at Paris in 1858. He became agrégé professor of epidemiology in 1865, and occupied the chair of hygiene at the Ecole d'application de médecine et de pharmacie militaires of Val-de-Grâce from 1874 to 1884. Vallin became medical inspector-general in 1888, and served successively as director of the Ecole du service de santé at Lyons and director of the Service de santé of the military district of Paris. Vallin's works on epidemiology and public health caused him to be elected a member of the Academy of Medicine, of which he was the secretary from 1897 to 1901. He was awarded the Montyon prize of the Academy of Sciences for his "Traité de la desinfection et des desinfectants." Vallin was the founder, and, from 1879 to 1901, the editor-in-chief, of the *Revue d'hygiène et de police sanitaire.*

BUDAPEST

(From Our Regular Correspondent)

Feb. 23, 1924.

Caustic Poisoning and the Salzer Method of Treatment

Dr. Janos Bokay, professor of pediatrics at the University of Budapest, has reported his results with the Salzer method of treatment of caustic poisoning and stricture of the esophagus. Swallowing potassium hydroxid is a frequent accident in Hungary. Owing to the great hardships of late the wives, even in the middle classes, are forced to work in offices, millineries and other places, leaving the supervision of their children in the hands of the eldest child or of neighbors. Such families live in one room, which of course is their kitchen also, and children have access to bottles containing the alkali. The Salzer method of treatment consists of applying the No. 30 Bass sound, which is a heavy esophageal sound filled with small shot and soaked in warm water to make it flexible. The treatment is begun from the third to the sixth day following the accident. The sound is left in the esophagus half an hour, and is reapplied every three or four days for several weeks. While Salzer published accounts of thirty-four cases thus treated Professor Bokay has reported 122. In 110 of these cases no strictures developed. The results were less satisfactory in five cases because the treatment could not be applied regularly. There were seven fatalities; in three, death was due to perforation of the esophagus followed by mediastinitis, and in four death was due to the poison itself. Professor Bokay strongly advises the use of this method of treatment for adults as well as children.

An Address on the Numerus Clausus

Although Hungarian pedagogic authorities are aware that the introduction of the numerus clausus has disgraced the country abroad, and that some educational authorities would welcome the withdrawal of this unjust institution, there are other members of the professorial board of the university who openly proclaim the necessity of preserving this novelty. It has found great opposition in Czechoslovakia and France, where some enthusiasts attempted to persuade the authorities to copy the Hungarian innovation. There was a students' congress held in Budapest recently at which Dr. Charles Hoor, professor of ophthalmology, made an address on this subject in the cupola hall of the central university. He said that it is remarkable that while the scientific universities of Budapest and Debreczen, and the Budapest technical high school are applying the numerus clausus order properly, the universities in Szeged and in Pecs are making allowances for Jewish students. It is a credit to the Szeged university that the number of Jewish students has been decreased in this season, but the university in Pecs does not show any such improvement. According to the numerus clausus law, the number of racial Hungarians—the numerus clausus deals with races and not with religion—in the whole country is estimated at 6,253,860, and is 80 per cent. of the total population, and the number of Jews is 473,303, which is 6 per cent. of the total population. The university at Szeged has matriculated Jewish students well over the rate of 6 per cent.

The council of the university at Szeged regards students coming from the lost territories of Hungary as foreigners. These are students who have been expelled from the universities by frequent antisemitic movements, which endanger their life. They consider them such because they assume these students will settle after their graduation in the lost territories and be pioneers of Hungarian culture. The council of the university thus considers that it is performing a patriotic deed. Professor Hoor objects to these universities admitting converted Jews and regarding them as part of the Hungarian race. The Budapest university is so strict in observing the rules of the numerus clausus as to declare as "unreliable" all Jewish students who have passed their military careers in hospitals and other sanitary institutions. He says that the minister granted this kind of auxiliary service only for those who had completed four seasons at the medical faculty of the university. Nevertheless, there were many Jewish lads in these services who had completed only one, two or three seasons; there were some who had not been matriculated at all. He emphasizes that the numerus clausus order has the strength of law, and its observation is a duty. This does not mean that withdrawing this order would be objected to by all those who respect laws. But nobody has the right to evade the law or to play with it under any pretext. On the other hand, everybody has the right to demand the strict observance of this law, and most of all the Hungarian youth.

Medical Fees and Insurance Companies

The medical advisers of the life insurance companies have started a movement to influence the insurance companies to pay medical fees in proportion to the depreciation of the currency from its normal rate of exchange. The fees at present are much less than formerly. The lowest fee for an insurance certificate in prewar times was 10 crowns ($2); the fee at present does not amount to 50 cents. As the ratio of face value of the policy to the premium is the same that it was in prewar days, the medical advisers insist on being paid on the same basis. Physicians are ready to strike if the companies will not comply with their request.

BUENOS AIRES

(From Our Regular Correspondent)

Jan. 12, 1924.

Pan-American Red Cross Conference

In December, the Pan-American Red Cross held a congress at the Buenos Aires Medical School, at which were discussed a number of plans relating to hygiene, preventive medicine and education of the public, as well as the existing health service and hospitals. The recommendations and resolutions were probably too prolific, and the program too extensive. At the general session, December 5, it was agreed that each national Red Cross society should increase its local chapters, organize a membership campaign, and keep in touch with sister societies on the Western Continent. A motion was approved recommending a better organization of life-saving work, and the equipment of ships with first aid and medicine chests. National societies were advised to cooperate with the Washington International Sanitary Bureau in matters concerning public health organization. Mention was made of the advisability of maintaining close relations with army and navy medical services in different countries and among the universities, in order to disseminate data for the prevention of disease. The congress also advised the teaching of first aid measures to policemen. The second conference will meet at Washington, D. C., the date to be determined by agreement among the national societies. The advisability of establishing a Pan-American Red Cross confederation will be taken up at the Washington conference.

Insulin

In a previous letter I mentioned the insulin commission appointed by the national public health department, and consisting of Professors Castex, Houssay, Escudero, Sordelli and Bachmann. After a clinical and an experimental study of the insulin manufactured at the bacteriologic institute, according to Dr. A. Sordelli's method, the commission has reported that this product fulfils all requirements. The national department

of public health has therefore made the product available to the public and to hospitals. The number of units sent out weekly has constantly increased until now it is 30,000; soon it will be twice as much.

National Science Prizes

The annual prizes of the national government for the best scientific work performed in the country were given in 1923 to several physicians. The first prize, 30,000 pesos (about $10,200), was awarded to Dr. B. A. Houssay for his studies on pituitary extracts; the second prize, 20,000 pesos ($6,800), was divided between Prof. J. Llambias for anatomic and pathologic studies and Dr. Pérez, the Argentine minister to Italy, for research in the comparative anatomy of the ear. The third prize, 10,000 pesos ($3,400), was divided between Dr. A. Palacios and Mr. Girola, an engineer.

Personal

Drs. E. Finochietto, M. R. Castex, P. Escudero, P. S. Chutro and G. Bosch Arana, have gone to Europe. Finochietto presented a paper on echinococcus cysts of the lung at the Madrid medical school. Bosch Arana delivered lectures on kineplasty in the Paris and Rome medical schools. Castex lectured in Rome and Madrid on the cause of certain types of purpura, which he attributed to injury of the sympathetic system.

Much sorrow has been caused by the tragic death of Prof. Felipe Basavilbaso, a counselor of the medical schools, from burns received in trying to save one of his servants.

BERLIN

(From Our Regular Correspondent)

March 1, 1924.

The Health Insurance Societies and the Physicians

The chief insurance bureau, through advertisements in the daily papers, is urging physicians to accept service in the health insurance societies. The medical organizations, on the other hand, continue to warn physicians not to comply with this request, but they have informed the insurance bureau of their willingness to work for the *Krankenkassen* under old conditions. They have also filed a protest with the federal insurance bureau and the Prussian ministry of public welfare against the action of the chief insurance bureau. A decision in the struggle must be reached soon.

Alcoholism During and Since the War

Recently, Professor Kräpelin gave some interesting data on the decrease of alcoholism during the World War and its upward trend since the war. The percentage of male alcoholics to the total male admissions in the Munich Psychiatric Clinic, in 1913, was 17.2; in 1915, 12; in 1916, 5.3; in 1917, 4.4; in 1918, 2.4. In 1919 the percentage rose to 4.3; in 1920 to 6.7, and in 1921 to 13.7.

In the five years preceding the war, the number of alcoholics provided for annually by the Munich local health insurance society ranged from 92 to 157. In 1914, the number dropped to 104, and, in the following five years, to 79, 37, 22, 13 and 14, respectively.

The relation of alcohol to crime in the army seems established. According to Dr. Weiler, the alcoholics among soldiers punished for crime and misdemeanors in the first Bavarian army corps during the years of the war diminished steadily (25, 18, 12, 5 and 3 per cent.). The percentage of the total number of punishable offenses that could be ascribed to intoxication shows a rapid decrease (46, 40, 17, 10, 4 and 2 per cent.). The police records of Munich during the war show that there was a rapid fall in the number of instances in which the police had to intervene on account of drunkenness unaccompanied by punishable acts. Since the war, an increase has been noted. The figures are: in 1913, 312 instances; 1914, 291; 1916, 29; 1917, 47; 1918, 55; 1919, 34; 1920, 106; 1921, 200. The number of punishable acts in Munich due to alcohol shows a marked decrease during the war and an upward trend since the war (1912, 793; 1917, 12; 1918, 13; 1921, 198).

Increase of Male Births

The contention that, after wars, male births increase, would seem to be confirmed. Dr. Simon and Dr. Lucht of the Prussian bureau of statistics have made an extensive study of this subject. Before the war there had been a progressive decrease in the birth rate, the annual number of births in Prussia falling off 85,000 since 1909. This downward trend was accelerated during the war, with a decrease in 1915 of 280,000 births over 1914. The birth rate has continued to fall, until now it is only 50 per cent. of the prewar rate.

However, since the beginning of the century there has been an increase in the ratio of male births; from 1900 to 1915, the ratio of male to female births rose from 105.44 : 100 to 105.77 : 100. But the fluctuations in this period were so slight that the more rapid increase in male births of late can scarcely be a continuation of that upward tendency. Up to 1914, the highest ratio was 106.38 : 100, but since the war the ratio has risen to 108.03 : 100. A table will show the sex ratio in the birth rate of Prussia from 1909 to 1920.

Percentage of Male to Female Births, 1909-1920

Year	Percentage	Year	Percentage
1909	106.01	1915	106.39
1910	106.06	1916	107.21
1911	106.36	1917	107.40
1912	106.54	1918	107.69
1913	105.84	1919	108.03
1914	106.38	1920	107.46 (excluding ceded territory)

Prussia has the highest percentage of male births. In Bavaria, from 1915 to 1918, the percentage of male births was 107.05; in Saxony, 107.06; in Wurttemberg, 105.66, and in Baden, 106.30.

In Denmark, in 1914, the percentage of male births was 105.28; in 1917, 105.18; in Switzerland, 106.73 and 105.02, respectively; in Holland, 106.10 and 106.30, respectively. In these neutral countries, the percentage of male births has not changed much since the war.

Marriages

ALEXANDER EDWARD BALBONI, Boston, to Miss M. Clara Fennell of England, at Boston, February 12.

HERBERT CLAIBORNE JONES to Miss Catherine Scott Smith, both of Petersburg, Va., February 23.

FRANK FARROW SIMPSON, Pittsburgh, to Miss Ruth Prentiss Ring of Philadelphia, March 12.

FIELDING LEWIS TAYLOR to Mrs. Ralph Fitzhugh Helmer, both of New York, March 15.

CARL EDWIN ANDERSON, Garretson, S. D., to Miss Grace P. Blake of Berlin, January 15.

SYLVESTER S. KRING, Johnstown, Pa., to Mrs. Sue Kring of McKeesport, February 13.

LOUIS SANDERS FAUST to Miss Elsie Eaton, both of Rochester, Minn., January 15.

HARRY H. SERED to Miss Lillian Helen Lyons, both of Chicago, February 17.

JAMES E. VANCE to Miss Eudora Mortimer, both of Boston, February 28.

ARTHUR HOOKS to Miss Edith Kelly, both of Bristol, Va., March 8.

Deaths

Henry Hun ✠ Albany, N. Y.; Medical School of Harvard University, Boston, 1879; died, March 14. Dr. Hun was born in Albany, N. Y., March 21, 1854. Previous to graduation, he was an assistant in physics at the Sheffield Scientific School of Yale University, New Haven, Conn. He was professor of nervous diseases at the Albany Medical College, 1885-1914, a member of the American Psychiatric Association, the American Neurological Association (president 1913-1914) and the Association of American Physicians (secretary 1888-1909, president 1910). He was president of the board of trustees of the Albany Academy, a member of the board of trustees of the Dudley Observatory, a member of the board of governors of the Albany Hospital, consulting physician to the Albany and Anthony Brady Memorial hospitals and the Albany Hospital for Incurables, and attending physician to the Child's Hospital. He was the author of "Differential Diagnosis of Nervous Diseases" and the "Guide for American Medical Students in Europe."

William Olin Stillman ✠ Albany, N. Y.; Albany Medical College, 1878, died, March 15. Dr. Stillman was born in Normansville, N. Y., September 9, 1856. He was lecturer on the history of medicine at his alma mater 1896-1914, and formerly physician to the Open Door Mission, Hospital for Incurables, Babies' Nursery, Lathrop Memorial Hospital and the Home for Christian Workers. He had been president of the American Humane Society since 1905, and presided at the first American International Humane Conference in Washington in 1910.

Clarence Sears Auble, Indianapolis; Indiana University School of Medicine, Indianapolis, 1912; member of the Indiana State Medical Association; served in the M. C., U. S. Army, during the World War; aged 41; died, March 6, of complications, following an appendectomy performed last December.

Perley Pierce Comey ✠ Augusta, Ga.; Medical School of Harvard University, Boston, 1878; member of the Massachusetts Medical Society; associate professor of medicine at the University of Georgia Medical Department, Augusta; aged 72; died, March 9, of senility.

Howard Morton Holcombe ✠ Lansing, Mich.; University of Michigan Homeopathic Medical School, Ann Arbor, 1915; city physician; served in the M. C., U. S. Army, during the World War; died suddenly in his office, March 5, of acute indigestion.

Thomas Logan Granay, Alton, Ill.; Marion-Sims College of Medicine, St. Louis, 1892; member of the Illinois State Medical Society; aged 57; on the staff of the Alton State Hospital where he died suddenly, March 5, of cerebral hemorrhage.

William Funk Rittenhouse, Chicago; College of Physicians and Surgeons, Chicago, 1886; member of the Illinois State Medical Society; aged 71; died, March 14, at the University Hospital, of myocarditis and acute articular rheumatism.

Milton Le Grand Wood, Montgomery, Ala.; Bellevue Hospital Medical College, New York, 1877; member of the Medical Association of the state of Alabama; formerly city physician; aged 69; died, February 24, of heart disease.

Frederick W. Hatch, Sacramento, Calif.; Jefferson Medical College of Philadelphia, 1873; formerly superintendent of the Agnew (Calif.) State Hospital, and general superintendent of state hospitals; aged 74; died, February 24, of senility.

James Harris Lowe, Piqua, Ohio; Bellevue Hospital Medical College, New York, 1888; member of the Ohio State Medical Association, formerly member of the board of education and city health officer; aged 68; died, March 4.

Edward Henry Jordan, Denver; Rush Medical College, Chicago, 1899; Spanish-American and World War veteran; formerly county physician; aged 48; died, March 6, at the Fitzsimons General Hospital, Denver, of pneumonia.

Duncan MacTavish Fuller, Seattle; Columbia University College of Physicians and Surgeons, New York, 1917; formerly on the staff of the Presbyterian and Roosevelt hospitals, New York; aged 30; died, March 15, of pneumonia.

Russell Thornton Gribble, Fairchance, Pa.; Medical Department of the University of the City of New York, 1885; member of the Medical Society of the State of Pennsylvania; aged 61; died, Dec. 31, 1923, of angina pectoris.

George Herbert Foss, Springfield, Mass.; Medical School of Harvard University, Boston, 1906; member of the Massachusetts Medical Society; member of the board of education; aged 45; died, February 29, following a long illness.

Edmund Brenton Fittro ✠ Salem, W. Va.; Baltimore (Md.) Medical College, 1894; for twenty-two years physician to the West Virginia Industrial Home for Girls; aged 55; died suddenly, January 15, of edema of the lungs.

Enos King Strawn, West Newton, Pa.; Fort Wayne (Ind.) College of Medicine, 1880; past president of the Westmoreland County Medical Society; aged 80; died, January 17, at Los Angeles, of heart disease.

Mary E. Bond Foote, Larchmont, N. Y.; Eclectic Medical College of the City of New York, 1873; New York Medical College and Hospital for Women, New York, 1875; died, March 8, of angina pectoris.

Jonathan C. Biddle ✠ Pottsville, Pa.; Jefferson Medical College of Philadelphia, 1877; formerly surgeon-in-chief and superintendent of the State Hospital, Ashland; aged 69; died, March 15, of pneumonia.

Leon A. Graybill, Oconee, Ga.; Bellevue Hospital Medical College, New York, 1880; member of the Medical Association of Georgia; formerly state senator; aged 70; died, February 9, of heart disease.

William Bluford Dalton, Scottville, Ill.; Long Island College Hospital, Brooklyn, 1878; member of the Illinois State Medical Society; aged 85; died, March 7, of carcinoma of the intestine.

William D. Whitney, Muncie, Ind.; University of Buffalo (N. Y.) Department of Medicine, 1874; formerly proprietor of the Muncie Hospital; aged 71; died, March 9, of cerebral hemorrhage.

Wilfred Bertram Hays ✠ Sonoma, Calif.; University of California Medical School, San Francisco, 1906; aged 52; died, March 5, at St. Francis Hospital, San Francisco, of erysipelas.

Herbert Isaac Bloch ✠ San Francisco; Cooper Medical College, San Francisco, 1894; aged 50; was instantly killed, March 4, when the automobile in which he was driving overturned.

Paul H. F. Weeke, St. Louis; St. Louis College of Physicians and Surgeons, 1900; aged 68; died, March 1, at the City Hospital, of injuries received when struck by an automobile.

Abraham Genn, New York; Eclectic Medical College of the City of New York, 1893; aged 70; died, February 2, at the Bellevue Hospital, of gangrene of the feet and arteriosclerosis.

Bernard Thomas Daly, Boston; Medical Department of the University of the City of New York, 1882; member of the Massachusetts Medical Society; aged 66; died, February 26.

John Phillip Rohn, Newark, N. J.; Cornell University Medical College, New York, 1908; aged 39; died, February 21, at the Newark Memorial Hospital, following an appendectomy.

John H. Irwin, Moulton, Ala.; Chattanooga (Tenn.) Medical College, 1904; member of the Medical Association of the State of Alabama; aged 52; died, March 5, of pneumonia.

John Evans Hall, Pond Creek, Okla.; Louisville (Ky.) Medical College, 1893; formerly mayor of Pond Creek and member of the city council; aged 53; died, February 7.

William Austin Hodkinson ✠ Santa Monica, Calif.; Western Pennsylvania Medical College, Pittsburgh, 1894; aged 54; died, February 4, of carcinoma of the liver and intestine.

Samuel Hamilton, Jr., Pittsburgh; Hahnemann Medical College and Hospital of Philadelphia, 1905; on the staff of the Homeopathic Hospital; aged 45; died, March 2.

Richard H. V. Dann ✠ Elmira, N. Y.; University of Maryland School of Medicine, Baltimore, 1903; aged 46; died, January 20, of pneumonia and mitral regurgitation.

Barnard Arnold, North Scituate, R. I.; Medical Department of Columbia College, New York, 1878; member of the school board; aged 71; died, March 6, of senility.

William H. Mosteller, Phoenixville, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1884; aged 65; died, February 19, of cerebral hemorrhage.

Carol Elmer Foss ✠ Havre, Mont.; Jefferson Medical College of Philadelphia, 1910; aged 36; died, February 25, of acute nephritis, following an appendectomy.

Elmer Delaney Prickett ✠ Mount Holly, N. J.; Medico-Chirurgical College of Philadelphia, 1898; formerly a druggist; died, February 7, of heart disease.

Charles Clement Stivers, Beatrice, Neb.; College of Physicians and Surgeons, Keokuk, Iowa, 1892; aged 60; died suddenly, February 26, of heart disease.

Katharyn W. Ellis, Bakersfield, Calif.; Cincinnati (Ohio) College of Medicine and Surgery, 1890; aged 56; died, February 27, following a long illness.

Henry W. Whitmore ⊕ Quincy, Mich.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1881; aged 67; died, March 2, of cerebral hemorrhage.

Thomas Joseph Byrne ⊕ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1899; aged 48; died, March 4, of pneumonia.

Gustav Adolph Rueck ⊕ New York; Cornell University Medical College, New York, 1907; aged 57; died suddenly, February 25, of heart disease.

John Sanford Seeley, Faribault, Minn.; University of Michigan Medical School, Ann Arbor, 1876; aged 71; died, March 9, of cerebral hemorrhage.

Joseph Paul Deevy, Brooklyn; University of the South Medical Department, Sewanee, Tenn., 1899; aged 48; died, February 25, of pleurisy.

John Joseph O'Sullivan ⊕ Lawrence, Mass.; Medical School of Harvard University, Boston, 1896; aged 52; died, February 17, of pneumonia.

Albert F. Swan, Ramah, Colo.; Denver College of Physicians and Surgeons, 1902; aged 48; died, February 25, following a long illness.

James K. P. Bowen, Dallas, Texas; Missouri Medical College, St. Louis, 1882; aged 63; died, January 19, of accidental asphyxiation.

Albert Dawson, Topeka, Kan.; St. Louis (Mo.) Eclectic Medical College, 1877; aged 76; died, February 27, of arteriosclerosis.

Jacob H. Houser, Sapulpa, Okla.; Rush Medical College, Chicago, 1862; Civil War veteran; aged 83; died, February 24, of senility.

Albert Ammernan Allen, Colby, Kan. (licensed, Kansas, 1901); aged 70; died, March 5, at San Francisco, of diabetes mellitus.

Harvell P. Quillian, Winder, Ga.; University of Georgia Medical Department, Augusta, 1880; aged 73; died, February 19, of senility.

William Evarts MacLachlan, New York; Eclectic Medical College of the City of New York, 1904; died, Dec. 22, 1923, of pneumonia.

James Milton Foreman, Fort Washington, Md.; Jefferson Medical College of Philadelphia, 1853; aged 95; died, March 3, of senility.

Charles F. Aplin, Logan, Ohio; University of Maryland School of Medicine, Baltimore, 1879; aged 73; died, March 5, of senility.

Thomas M. Crowe, Buffalo; University of Buffalo Department of Medicine, 1884; died, February 27, of cerebral hemorrhage.

Charles McLaughlin Sloan ⊕ Madison, Pa.; University of Pittsburgh School of Medicine, 1897; aged 56; died, February 29.

Benjamin Neely Childs, San Jose, Calif.; California Eclectic Medical College, Los Angeles, 1895; aged 54; died, February 24.

John Lenwood Purser, New Orleans; University of Nashville (Tenn.) Medical Department, 1900; aged 45; died, March 5.

Generous, Leander Henderson, Kansas City, Mo.; Chicago (Ill.) Medical College, 1868; aged 79; died, March 1, of senility.

John P. Prendergast, Troy, N. Y.; Albany (N. Y.) Medical College, 1878; aged 71; died suddenly, March 2, of heart disease.

Francis C. Caldwell, Chicago; College of Physicians and Surgeons, Chicago, 1883; aged 73; died, March 20, of asthma.

John Simeon Hunt ⊕ Chicago; Medical College of Ohio, Cincinnati, 1884; aged 64; died, March 21, of carcinoma.

Harvey Thomas King, McKenzie, Tenn. (licensed, Tennessee, 1911); aged 66; died, January 23, at Elreno, Okla.

Albert Jerome Loomis, New York; Bellevue Hospital Medical College, New York, 1884; aged 61; died, March 2.

Edward L. Higginbotham, Galena, Kan. (licensed, Kansas, 1901); aged 65; died suddenly, February 29.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

"MENTAL AND SPIRITUAL HEALING"

Some Press-Agent Work for an Alleged Text Book for Physicians

Medical journals and newspapers have recently received a bid for free publicity to be given a book entitled "Mental and Spiritual Healing: All Schools and Methods." The book is said to be "A Text Book for Physicians and Metaphysicians" and purports to be written by one Pierson Worrall Banning of Los Angeles. The publicity material comes as three pieces of printed matter. They all deal with the alleged fact that Banning's book has brought to its author the "major award" of the "Benjamin Franklin Fund" of London. One of the pieces of printed matter is a photographic reproduction of a news item from the New York *Times,* Jan. 31, 1924. This item is to the effect that more than one hundred and fifty years ago Benjamin Franklin put £100 in the hands of members of the Society of Friends as a trust and that this was to be invested, with its accumulations, for not less than one hundred and fifty years. After that time the money that had accumulated was to be awarded to individuals who made the "most valuable contributions to science" on the "general subject of cures" and with particular emphasis on the part that "mind treatment might have in the recovery and preservation of health."

The story goes on to state that the first award has just been announced in London and that Pierson W. Banning had received £2,500 as the "Major Award" for his book "Mental and Spiritual Healing"; that Charles P. Steinmetz got the second award of £1,000 for a privately published treatise, "The Nervous System as a Conductor of Electrical Energy" and that a minor award of £500 had gone to a Japanese living in Tokio. So much for the ground work of this story as it appeared in the New York *Times* last January.

Another one of the three pieces of printed matter purports to be a "Feature Sketch" of Banning. This also stresses the alleged claim that Banning had received the major award with Dr. Steinmetz, a poor second. It states, too, that Banning's book was submitted to the Benjamin Franklin Fund Committee "by Dr. Franklin C. Wells, Medical Director of the Equitable Life Insurance Company of New York." Dr. Wells and Dr. Steinmetz are both dead.

Before discussing the book itself, the readers of THE JOURNAL may be interested in an earlier piece of press-agent work in behalf of "Mental and Spiritual Healing" that was sent out during the summer of 1923. This consisted of four typewritten pages, legal size, purporting to come from the Albany Chamber of Commerce. It dealt with the "most remarkable case in modern medical science" that had recently happened "at the County Hospital at Albany." The story was to the effect that "Dr. J. T. Everheart," who was in charge of the County Hospital at Albany, had just announced that one Margaret Cooper who died in the hospital had been brought to life by a Mrs. Elizabeth Smith. Mrs. Smith's stunt in producing this resurrection was said to have been performed after reading Banning's book "Mental and Spiritual Healing"! The bringing back to life of Miss Cooper, we were told, had aroused Albany to a "mob fever of investigation" and all of the Protestant churches and some of the Catholic churches had organized groups to study these startling healing methods.

At the time this came out THE JOURNAL made some investigations. It found that, although the stuff was supposed to be sent out by the Albany Chamber of Commerce, it was mailed from Los Angeles. The Chamber of Commerce of Albany, N. Y., repudiated the report and expressed itself as much exercised over this "semi-malicious publicity matter" and stated that it was doing its utmost to run the story

down. That organization also declared that it had received many letters from metropolitan and smaller newspapers, as well as from other Chambers of Commerce but that, fortunately, the thing had been discredited generally by the newspapers and no credence placed in it.

Incidentally, there was no "Dr. J. T. Everheart" in the United States, and THE JOURNAL learned that Banning was at that time operating under the fictitious trade style "National Statistical and Efficiency Bureau" and that he also claimed to be president of the "Sons of the American Revolution." It was also said that Banning had acted as an organizer for various societies and clubs as well as claiming to be an "efficiency expert."

From what has been said, one might expect a book on "Mental and Spiritual Healing" brought out under such auspices to be worthless or worse; it comes up to such expectations. Its physical make-up is crude; it is printed on cheap paper with an inexpensive binding. If it had any worth-while sale it should bring in a handsome profit if sold at 50 cents. Instead, it sells for $3.50. Considerably more than half the book is "lifted" bodily from various other publications—most of them as scientifically unsound as Banning's own stuff. The whole of Chapter II is taken from an earlier book of Banning's entitled "Psychology, Superpsychology and Higher Phases." In this chapter Banning declares in effect that we know nothing of matter except through "vibrations." Health, he tells us, is due to the "proper attunement of the many varieties and planes and keys of vibration that manifest themselves" in what he terms "the so-called human body." We are told further that "so-called sin, sickness or other abnormal conditions" are due to "inharmonious vibrations." Furthermore, "you can set in motion vibrations that will kill or nullify any harmful vibrations started by others." All through his book Banning glibly but vaguely drags in vibrations. For example:

> "If food we eat has ceased to vibrate as to its molecular vibrations as digestible food and vibrates in a different way as food that is bad or decomposing, there is instantly a reaction in the stomach or intestines."

This sentence is characteristic of the amount of knowledge exhibited by Banning both in the use of the English language and in his conception of physiology.

The chapter dealing with "Spiritual and Divine Healing" consists of forty-two pages, about thirty-five of which consist of quotations from Mary Baker Eddy and other followers and imitators of Eddyism. Part of the chapter deals with the "Treatment for Prosperity" as practiced by one George E. Burnell. To quote a few of the Burnell postulates:

> "All the power there is, is devoted to my prosperity; I am not afraid."
> "There is no reality in the poverty of the poor; there are no poor."
> "I know that there are no poor and oppressed; I do not doubt the truth."
> "There is no truth in the idea of having to work for a living; life is."

From such investigations as have been made, THE JOURNAL does not hesitate to express the opinion that the so-called Benjamin Franklin Fund does not exist and that the alleged "major award" to Banning is as big a hoax as the resurrection stunt at the "Albany County Hospital."

Experiments with Raw Starch.—To supplement a series of experiments made on men in which the digestibility of raw starches by normal persons was tested, a similar series of experiments on women was conducted in 1922 by the Bureau of Home Economics of the U. S. Department of Agriculture. Bulletin 1213 gives the results of the experiments performed with raw starches. The later experiments led to practically the same conclusions as the first series with respect to the complete digestibility of pure raw starch from corn, wheat and rice. Raw patent flour and raw farina, wheat products containing practically no bran, are also completely digested. The average digestibility of the carbohydrate in raw graham flour was 97 per cent. The carbohydrate in raw corn meal was 99 per cent. digested. Potato starch only among those studied did not seem to be equally well digested by every person in the experiment. It varied from 100 per cent. to 49 per cent. in the coefficient of digestibility.

Correspondence

A DIPHTHERIA SURVEY

To the Editor:—In THE JOURNAL, April 8, 1922, page 1072, Dr. C. Hampson Jones, commissioner of health of Baltimore, suggested in a letter to the editor the value of THE JOURNAL'S giving an annual review of diphtheria in cities of the United States in much the same way that it reviews typhoid mortality. In an editorial note appended to Dr. Jones' letter it is stated that the suggested survey had been under consideration for some time and would probably be undertaken. Nearly two years have since elapsed, and so far as I know the matter is still only under consideration or perhaps has even fallen from that estate.

I am writing this letter because I am quite convinced that nothing national or state authorities can do would stimulate antidiphtheria work in cities so much as publishing annually their mortality and morbidity rates with appropriate comment thereon.

The following occur to me as reasons why such a review would be particularly valuable:

1. Diphtheria is a disease of cities. In the registration area the death rate for cities (places over 10,000) is about twice that of the rural portion.

2. Diphtheria is a disease of the colder (temperate) latitudes. The disease is rare in the tropics and subtropics even in large cities. The death rates in the Northern states and cities is generally higher than in the Southern.

3. In 1920, twenty-one of the twenty-seven million people living in places of 100,000 population or over were in the North (New England, Middle Atlantic and East and West North Central states).

4. As a result primarily of these two factors (concentration of population and climate), it is found that the death rate for diphtheria in 1920 was 24.7 per hundred thousand in cities of more than 100,000 population, as compared with 18.7 for all places of more than 10,000, 15.3 for the entire registration area and 12.1 for the rural sections. Furthermore, 40.2 per cent. of all the diphtheria deaths in the registration area that year were in the cities of 100,000 or more, the population of these cities comprising only 25.1 per cent. of the population of the entire registration area.

In the editorial note referred to, it was stated that there were greater difficulties in preparing a review for diphtheria than there were for typhoid. Without a specific statement of these difficulties, it is not possible to estimate how great they are. I believe, however, that diphtheria control in cities will be found to be proportionately more important than the control of typhoid in large cities was at the time the American Medical Association took up the subject. Typhoid was even then more a problem of the South and of smaller cities and rural districts.

It seems to me that striking improvement is possible in the death rate from diphtheria through the exercise of two essential attributes of a health officer—intelligence and courage. The principal use of the former would be to create a demand for active immunization on the part of the public, to persuade people to call a physician early in suspicious cases, and to accept without question or even to demand the prompt administration of antitoxin in suspicious cases and to persuade physicians to adopt a "safety first" attitude in the treatment of cases that "look like diphtheria." Courage is required not so much for securing the enforcement of regulations as for conducting a thorough and impartial inquiry to determine just who is responsible for each diphtheria death that occurs. It used to be said that for every death from typhoid fever "some one should be tried for murder." I believe that it will be conceded generally that this is much nearer being true of

diphtheria than it ever was of typhoid, that the fault must lie in at least 95 per cent. of the cases between the parents and the physician, and that the time is approaching when this responsibility should be definitely fixed in each instance by competent authorities.

EDWARD S. GODFREY, JR., M.D., New York.

EPIDEMIC ENCEPHALITIS

To the Editor:—In THE JOURNAL, Nov. 17 and Nov. 24, 1923, Dr. Simon Flexner, in an article on epidemic encephalitis and allied conditions, casts doubts on much of the experimental work that has appeared on this disease. His references to my own work do not give a true interpretation of the results achieved. For example, he states that:

> Another reputed successful transmission directly to monkeys is reported by McIntosh and Turnbull. This example can be dealt with briefly since the brain of a fatal human case was placed entire in 33 per cent. glycerol, where it remained for fourteen days before portions of the much softened organ were removed for the making of a Berkefeld filtrate, which was used for intracerebral injection. The inoculated animal had a convulsion six days later, and died nearly two months after the injection. Perivascular lesions were present in the optic thalamus, but their nature must appear problematic. Transmission in series to other monkeys seems not to have been achieved.

Later he states that "belief in the solution of the etiology of epidemic encephalitis rests on the successful inoculation of a transmissible disease to rabbits with material taken from five cases of clinical epidemic encephalitis, one in France, three in Switzerland and one in Germany."

Now, if Dr. Flexner had read all our communications on the subject of encephalitis, he could hardly have come to these conclusions. For in my second article, which appeared in the *British Journal of Experimental Pathology* in October, 1920, details are given of the successful transmission in series to monkeys and rabbits of the identical virus he attempts to discredit.

In a third article, which appeared in the same journal in February, 1923, three additional instances are given of successful inoculation of rabbits with material from human encephalitis cases. I think, therefore, that the foregoing details are sufficient to refute Dr. Flexner's statements.

Further, in my earliest work on epidemic encephalitis (Report to Local Government Board, 1918) I was one of the first to point out the difficulty of communicating the disease to monkeys, thus distinguishing it from poliomyelitis, a view for which I was repeatedly criticized at the time, but now accepted. In this series, animal experiments were necessarily restricted, owing to war-time necessities, and as monkeys were almost unobtainable; yet material obtained from eight human cases when the English epidemic was at its height was inoculated into at least twenty monkeys without any very definite result. Later experiments, however, showed that positive results could occasionally be obtained in monkeys, particularly if monkeys other than macaques were used.

Recent researches on the spontaneous encephalitis of rabbits has no bearing on our rabbit results, as the condition with its destructive histologic lesions and cytology has been well known to us for a long time. Further, inoculation material obtained direct from human cases of lethargic encephalitis can cause an acute disease in rabbits in as high a figure as 70 per cent., while control material has no such effect.

Work on which I am at present engaged, in which intracerebral inoculation in rabbits has been done on a large scale, shows that in our rabbits a spontaneous encephalitis is a rarity. Further, the recent work of Levaditi, Nicolau and Schoen by demonstrating the presence of a microbe (*Encephalitozoon cuniculi*) has confirmed my opinion of the spontaneous rabbit disease.

With respect to the spontaneous infection in a monkey described by me, I can only say that the brain lesions were typical in site and character and, as is the case with any biologic test, one positive result is of more value than 100 negative.

Dr. Flexner's view of our experimental work is, therefore, erroneous and incompatible with the actual data, and does not give due credit to pioneer work done on lethargic encephalitis in Britain.

JAMES MCINTOSH, M.D., London, England.
Professor of Pathology,
University of London.

DIGITAL EXTUBATION

To the Editor: — The method of extubation (digital) described by Dr. John Leshure in THE JOURNAL, February 23, has long been practiced in France, and two well known methods are used—Marfan's and Renault's. The technic was described, with illustrations, by me in the *Archives of Pediatrics* in February, 1908.

J. R. CLEMENS, M.D., Webster Grove, Mo.

[NOTE.—The letter of Dr. Clemens was referred to Dr. Leshure, whose reply follows.]

To the Editor:—Both methods mentioned differ in several respects from the one I described, chiefly in that the patient is removed from bed and is subjected to considerable manipulation. In Renault's method, the child sits in an upright position while Marfan lays it on a table on its abdomen, with the head hanging over the edge of the table. No doubt, any of these methods will give excellent results; but all will agree that the recumbent position is best for a patient who has passed through the toxemia of diphtheria.

Digital extubation has been practiced more or less since the days of O'Dwyer, and I make no claim for any originality of the method in question. Dr. H. B. Sheffield of New York has brought to my notice his description of digital extubation (*M. Rec.* **92**:1068 [Dec. 22] 1917): "Occasionally one succeeds in removing the tube by 'stripping' the larynx from below upward with one hand, at the same time grasping the head of the tube between the index and middle fingers of the other hand."

My chief object was to publish in a column which is so widely read as Clinical Notes, Suggestions and New Instruments, a simple method of extubation which could be taught to nurses for use in an emergency such as occluded tube, or in cases in which instrumental extraction was impracticable for any reason.

JOHN LESHURE, M.D., New York.

REGISTRATION BUREAU FOR POSITIONS IN FUNDAMENTAL SCIENCES

To the Editor:—The Federation of American Societies for Experimental Biology, comprising the sciences of physiology, biologic chemistry, pharmacology and experimental pathology, has maintained for some years a central office from which information may be obtained by men who are looking for positions in these sciences, or by institutions looking for individuals to fill vacant positions. Persons, whether members of the federation or not, and institutions desiring to avail themselves of this service, may do so at any time.

Dr. E. D. Brown of the University of Minnesota, who has been secretary of this information bureau since its organization, has recently resigned, and I have taken over the direction of this work. Quite a number of communications have been received from both men and institutions, which would indicate that such a bureau has a considerable sphere of usefulness. Letters may be addressed to the director of the bureau.

C. W. EDMUNDS, M.D., Ann Arbor, Mich.
University of Michigan.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

USE OF ACIDIFIED MILK IN INFANT FEEDING

To the Editor:—What is your opinion regarding the addition of acids or alkalis to cow's milk in order to make it more digestible for infant feeding? The reason I am inquiring is that I notice quite a difference in the statements made by Hess (Infant Feeding, page 75) and Marriott and Davidson (Acidified Whole Milk as a Routine Infant Food, THE JOURNAL, Dec. 15, 1923, p. 2007).

E. H. RAYSON, M.D., Earlville, Ill.

ANSWER.—Marriott and Davidson recommend the use of whole boiled milk to which lactic acid has been added, because of the lessened tendency to neutralize gastric juice, the precipitation of a finer curd, and the inhibiting action on the growth of pathogenic bacteria. They feed acidified milk to infants of all ages and for prolonged periods.

Faber recommends the addition of one-fourth the volume of tenth normal hydrochloric acid to cow's milk. He usually begins with two-thirds whole milk, increasing to two-thirds top 5 per cent. or top 6 per cent. milk as a basis within a few days. He finds no difficulty in returning to the use of unsoured milk when the transition is not made too rapidly. He also avoids its use during the first six weeks of life.

In addition to the advantages stated above, the use of both these methods of feeding is to a large extent based on the reduction of the buffer value of cow's milk, by the addition of acid, to a point nearing that of human milk.

Marriott states that hydrochloric acid is not burned in the body; it must be neutralized and excreted, while lactic acid is completely burned to water and carbon dioxid.

The addition of alkalis is made for the purpose of precipitating a fine flocculent curd instead of the large tough curd as seen when whole raw cow's milk is fed. Similar results are accomplished by boiling. Either one of these or a combination of them permits of the feeding of concentrated cow's milk mixtures, which is to be desired in many of the difficult feeding cases because of the shortened period of digestion and the lessened tendency to irritation of the pylorus with resulting vomiting.

Results obtained in feeding infants are always largely dependent on one's ability to interpret properly the needs of the infant. Most pediatricians are agreed that the average infant will make normal progress on a well balanced simple milk mixture when a good quality of milk is used and the curd is broken either by boiling or alkalizing, with a reservation of acidified milk to meet special indications.

WASSERMANN TEST — ASCITIC FLUID

To the Editor:—1. What diseases or conditions give a positive Wassermann reaction except syphilis? 2. In making a differential diagnosis of tuberculosis, carcinoma or any other conditions in which there is fluid in the abdominal cavity, what aid would it be to make a thorough analysis of the fluid?

GEORGE W. REESE, M.D., Shamokin, Pa.

ANSWER.—1. There are a few diseases in which a positive Wassermann reaction is sometimes obtained, and the most careful examination fails to disclose evidence of syphilis. These diseases are yaws or frambesia; leprosy, especially the tubercular form; some cases of relapsing fever; some cases of malaria, during the febrile stage, and some instances of experimental trypanosomiasis in animals. There have also been reported positive Wassermann reactions in considerable percentages of series of cases of various other diseases. However, when it is remembered how difficult it is to exclude absolutely a syphilitic infection in any person, and the few instances in which the Wassermann test is positive in diseases other than syphilis, one should accept with great caution reports of positive reactions in such diseases. The experience of those who have performed hundreds of thousands of tests over a period of many years, Craig says, has been that a positive reaction in an overwhelming majority of cases demonstrates the presence of syphilis. Noguchi says also that it is reasonable to suspect any one who obtains a high percentage of positive reactions in nonsyphilitic cases of not doing the test properly.

2. It is sometimes possible to differentiate a tuberculous peritonitis from an ascites or an ovarian cyst by an examination of the fluid in the abdominal cavity. According to Webster, tuberculous peritonitis usually shows a lymphocytosis and a relative polynucleosis. A few endothelial cells may occasionally be found, but these do not yield much information. In ascites of hepatic origin, few cellular elements are observed beyond the peritoneal endothelial cells. In ovarian cysts there are fewer cellular elements as a rule, but those present are usually large, round or oval and filled with vacuoles. Moreover, cylindric ciliated epithelial cells, as well as goblet cells or red cells, are frequently relatively numerous.

ALLONAL-ROCHE

To the Editor:—Kindly inform me as to the scientific, legal and ethical status of Allonal-Roche. Will its dispensation be in violation of the Harrison law? It is introduced by the Hoffmann-La Roche Chemical Works, New York. Please omit name.

S., M.D., Detroit.

To the Editor:—Please let me know the Council's report on Allonal as put out by the Hoffmann-La Roche Chemical Works of New York. I fail to find it listed in New and Nonofficial Remedies of 1923.

GEORGE C. HAUGHEY, M.D., Ellis, Kan.

ANSWER.—According to the label, Allonal is "Allyl-isopropylbarbituric acid-Phenyl-dimethyl dimethylamino pyrazolon" (phenyl-dimethyl-dimethylamino-pyrazolon is a chemical name for amidopyrin ["Pyramidon"]). In the literature first sent out it was stated to be a "compound" made by "chemically uniting allyl-isopropylbarbituric acid (37.5 %) with phenyl di-methyl-dimethylamino-pyrazolon (52.5 %) amidopyrin, i. e., in molecular proportions 1:2." Examination of Allonal tablets made in the A. M. A. Chemical Laboratory last year showed that, in water, the substance behaved as a mixture of allyl-isopropyl barbituric acid and amidopyrin and not as a compound. Furthermore, the percentages of the ingredients given are not in accord with the statement that they are in molecular proportions. In the more recent literature, the "new chemical compound" is not stressed, but the reprints enclosed contained the long chemical name. The published reports on its use are favorable, but they apparently include no observations with controls. The evidence thus far available does not seem to prove (1) that "Allonal" possesses advantage over a mixture of allyl-isopropyl barbituric acid and amidopyrin, or even over one or other of its ingredients alone; (2) that the administration of allyl-isopropyl barbituric acid and amidopyrin in fixed proportion is desirable. Allyl-isopropyl barbituric acid is related to barbital (diethylbarbituric acid) and therefore belongs to the hypnotic series. It is understood that additional scientific evidence is to be made available, although in the meanwhile, physicians are being urged through advertising to use "Allonal." The product has not been submitted or accepted for New and Nonofficial Remedies. It does not come under the definition of a narcotic under the Harrison Narcotic Law.

SINGLE DOSE RABIES VIRUS

To the Editor:—Is the single dose prophylactic canine rabies virus put out and recommended by the manufacturers as insuring dogs against the development of rabies, even if bitten, accepted as effective? Is it worthless when given after a dog has been bitten by a rabid animal? Is there any treatment for the human patient under similar conditions?

THOMAS J. TUDOR, M.D., Keokee, Va.

ANSWER.—Umeno and Doi of Japan reported in the *Kitasato Archives of Experimental Medicine* (**4**:89 [March] 1921) considerable success from the prophylactic use of the single injection method of vaccination against rabies. The vaccination was applied to a large number of dogs with a resultant decrease in the number of cases of rabies. Also the deputy commissioner of domestic animals of Connecticut has reported good results from the prophylactic use of the single injection vaccine. Eichhorn and Lyon (*J. Am. Vet. M. A.*, April, 1922) report 100 per cent. protection of vaccinated dogs against subsequent experimental exposure to street virus. The U. S. Bureau of Animal Industry has been conducting experimental work on this subject, and results to date (unpublished) indicate that the prophylactic vaccination has value, which, however, is determined to a certain extent by the virus to which the animals are exposed; in other words, with certain strains of rabies virus, vaccines afforded no protection. The use of the single injection vaccine in animals that have been bitten is believed to be unwarranted at this time. The Högyes treatment of six doses, in animals bitten, can be recommended, as it has been in practical use over a period of years, and the failures reported after its use have been small. The use of the Högyes vaccine, together with the cauterization of the

wounds, and the placing of the animal in quarantine for at least six months, preferably a year, is believed to be the best method of treating such cases.

OBSTRUCTION BY CERVIX DURING DELIVERY

To the Editor:—During delivery, the anterior lip of the cervix frequently forms an obstacle by refusing to smooth out and persisting as a ridge about 2 inches long, one-quarter inch wide and one-eighth inch thick, over which the head does not slip, but which, like an elastic band, is pushed down with each pain and then goes back. In these cases it is of great help to manipulate the band over the head by pushing, lifting and stretching it with the forefinger, which, I suppose, is nothing new; but in doing so, I believe that almost invariably such manipulation excites strong labor pains, which helps greatly in bringing on a speedy and spontaneous birth. I therefore wish to ask whether this is due to the existence of a labor-exciting nerve center in the anterior lip.

K. L. ELSNER, M.D., Brooklyn.

ANSWER.—The anterior lip of the cervix, more particularly in multiparas, frequently becomes incarcerated between the descending head and the symphysis. An edema develops, the bearing down efforts of the patient aggravate the incarceration, and with increasing edema the cervical lip becomes a barrier to further progress of labor, and secondary inertia of exhaustion arises.

If between pains the edematous lip is pushed up over the head and held during several contractions if necessary, it promptly is drawn up out of the way, contractions and voluntary efforts advance the head, and labor rapidly terminates. This cannot be regarded as anything other than a mechanical barrier mechanically removed.

It should be noted, however, that in studies of the sympathetic plexuses of the female genitalia there is described Dembo's ganglion situated in the anterior cervical lip, stimulation of which, as by manual or instrumental dilation or packing of the cervical canal, is said to result in stimulating contractions of the uterus.

ANTITOXIN — PARACENTESIS

To the Editor:—1. What is the exact site on the buttock for the intramuscular injection of diphtheric antitoxin? Is there any danger in the procedure, or bad after-results? 2. Is there any danger in giving toxin-antitoxin injections to an asthmatic child? 3. What is the usual site for paracentesis thoracis in a young child?

J. R. CLEMENS, M.D., Webster Grove, Mo.

ANSWER.—1. The site of choice for injection into the gluteal muscles is approximately half way between the great trochanter and the tip of the coccyx. The needle should be of sufficient length so that the antitoxin will be injected into the muscle and not the subcutaneous tissue. The depth will vary according to the age of the child. With proper asepsis, the only after-effect is local tenderness.

2. Severe local reactions have been experienced from the Schick test in children with asthma, but no bad reactions from the toxin-antitoxin subcutaneous injections. In order to be safe, the first dose should be a minimum one in all cases of asthma.

3. With localized exudates, the exact site for entering the chest must of necessity be governed by physical examination. In the presence of large amounts of free fluid in the pleural cavity, the seventh or eighth interspace in the posterior axillary line is the point of choice for entering.

DIGITALIZATION—EFFECT OF BOILING SOLUTIONS

To the Editor:—1. In what issue of THE JOURNAL was a formula given for rapid digitalization of the heart? 2. In intravenous administration of mercurochrome-220 soluble and gentian violet, does boiling the solution cause deterioration? 3. I understand, of course, that boiling sodium bicarbonate solution changes the bicarbonate to carbonate. In case glucose is used with the bicarbonate, how is the solution prepared? 4. If glucose is used alone, can the solution be boiled? The last two questions refer to intravenous administration.

F. M. C., Chicago.

ANSWER.—1. Reid, W. D.: Some Toxic Effects of Digitalis, THE JOURNAL, Aug. 11, 1923, p. 435.

2. No. These solutions are not usually boiled before use, because they are self-sterile.

3. Solutions of sodium bicarbonate may be sterilized by boiling or by subjecting them to contact with live steam for twenty minutes. Useful Drugs, Edition 6, contains the directions that the sterilized solution should be cooled and carbon dioxid passed through it until it is colorless to phenolphthalein.

4. Yes.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, April 1. Sec., Dr. W. O. Sweek, 404 Heard Bldg., Phoenix.

ARKANSAS: Little Rock, May 13-14. Sec., Dr. J. W. Walker, Fayetteville.

COLORADO: Denver, April 1. Sec., Dr. D. A. Strickler, 612 Empire Bldg., Denver.

DISTRICT OF COLUMBIA: Washington, April 8. Sec., Dr. Edgar P. Copeland, Washington.

HAWAII: Honolulu, April 14. Sec., Dr. Guy C. Milnor, 401 Beretania Street, Honolulu.

IDAHO: Boise, April 1. Director, Mr. Charles Laurenson, Boise.

ILLINOIS: Chicago, April 15-17. Supt. of Registration, Mr. V. C. Michels, Springfield.

MASSACHUSETTS: Boston, May 13-15. Sec., Dr. Charles E. Prior, 144 State House, Boston.

MINNESOTA: Minneapolis, April 1-3. Sec., Dr. Thomas McDavitt, 539 Lowry Bldg., St. Paul.

MONTANA: Helena, April 1. Sec., Dr. S. A. Cooney, 205 Power Bldg., Helena.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee, Carson City.

NEW MEXICO: Sante Fe, April 14-15. Sec., Dr. W. T. Joyner, Roswell.

OKLAHOMA: Oklahoma City, April 8-9. Sec., Dr. J. M. Byrum, Shawnee.

RHODE ISLAND: Providence, April 3-4. Sec., Dr. B. U. Richards, State House, Providence.

UTAH: Salt Lake City, April 1. Director, Mr. J. T. Hammond, 412 State Capitol Bldg., Salt Lake City.

MIDDLESEX COLLEGE OF MEDICINE AND SURGERY

Cambridge, Mass.

Report of an investigation including an inspection made by the Connecticut Special Grand Jury, made to the Supreme Court, Friday, March 14, 1924.*

To the Honorable Superior Court Holden at Hartford, Within and for the County of Hartford, on the First Tuesday of March, A. D., 1924, and Now in Session:

The grand jurors within and for said county upon their oaths present and inform as follows:

. . . . . .

The investigation conducted by the grand jury disclosed that the Middlesex College of Medicine and Surgery was operating under an old charter granted in 1859, which was revived in 1914, and that while the charter gives the institution the right to teach eclectic medicine, it is not an eclectic school and does not teach eclectic medicine in the sense of being an institution the graduates of which would be qualified or entitled to be examined by the state board of eclectic examiners in Connecticut. There are no graduates from eclectic schools or colleges on the faculty. There are no textbooks on eclectic medicine mentioned in the list of textbooks published in the catalog of the institution, which list enumerates in all more than fifty books. The published curriculum of the school does not mention eclectic medicine, although sixty-four courses are listed.

NO ECLECTIC CLASSES LISTED

There were no classes in eclectic medicine listed on the typewritten curriculum of the college which is posted on a bulletin board therein.

An inspection of the dissecting room of this institution indicated that it had not been in use for some time prior to the inspection. The chemical and pharmacological laboratories failed to reveal evidence of use by students, and neither the dissecting room nor the laboratories were in use at the time the inspection was made; the reagent bottles failed to show evidence of use; the tables did not indicate ordinary school employment. It was claimed that the clinical instruction was given at the Lynn hospital, but this hospital is ten miles away and can not be used to advantage. All of the instruction is given by lectures and clinics, and the college does not employ any full-time instructors even in such fundamental subjects as anatomy, physiology, physiological chemistry, pathology and bacteriology.

* Reprinted from the Hartford (Conn.) Daily Times, March 14, 1924.

A list of the students in the above institution was submitted at the time of the investigation, which indicated that there was no division into classes; it was impossible to tell how many persons attend each class, and there was no list of graduates for the academic year in which the catalog is published, but there was a picture of the class of 1923 in the published catalog, although there is no record of the graduation of eight of the twenty-seven men shown in the picture. The catalog listed one John F. Krasnye as professor of psychiatry who is claimed to have a degree of A.B. from St. Bonaventure's college and M.D. from Yale university. An investigation of this man's record shows that he entered Yale university on a certificate of one year's work in St. Bonaventure's college, and that after two years he succeeded in passing the first year's work in the Yale Medical school, and left.

The Middlesex College of Medicine and Surgery might have been of the type of medical school in existence a generation ago, but it cannot now be countenanced as an institution capable of supplying the education necessary to enable one to practice the healing arts.

GRADUATES' KNOWLEDGE DEFICIENT

We, the grand jury, find that the hereinbefore named graduates of the Middlesex College of Medicine and Surgery are deficient in the knowledge which it is necessary that they have to protect the public from contagious or infectious disease. The college standards for entrance are low, the equipment is inadequate, and the teaching can properly be termed desultory; the facilities for the dissection laboratory work and so forth are so pronouncedly inadequately that a student must know that statements and information contained in the catolog are misleading and false and that the word eclectic does not appear in the catalog of forty-eight pages, that this institution is not equipped and in fact does not teach eclectic medicine.

While it is a logical conclusion as to what information students of this college must of necessity obtain, it is an established fact that it was the common practice for persons holding diplomas from the Middlesex College of Medicine and Surgery to apply for and take examinations for a license to practice medicine in the state of Massachusetts. In their applications for permission to take that examination the students certified that they were "regular" or "allopath" physicians, having graduated from a school teaching "allopathic" medicine. Upon failing to pass the examination successfully in Massachusetts they presented themselves before the Connecticut eclectic examining board to be examined in and passed as graduates and doctors of eclectic medicine. A personal examination of persons holding diplomas from the Middlesex College of Medicine and Surgery revealed a lack of knowledge of the fundamentals necessary to enable the persons examined to pursue a course of study in medicine and the healing arts with any degree of intelligence.

FALSEHOOD OPENS CAREER

Examination by the state board of eclectic medical examiners is held after an application is filed by a person desiring to become a doctor, and the application must show that the student seeking to take the examination is in certain respects qualified to do so. One of the important requisites is that the applicant shall have been a student of eclectic medicine. At the outset of their professional career, these persons stooped to falsehood and deception. The Connecticut board of eclectic examiners had been warned of the character of this institution, and they are not free from blame in this respect, but it is apparent that would-be doctors sought and found an institution where the standards were low and it is to be expected that the atmosphere of this college would so affect the morals of the persons attending it as to make the fraud and deception practiced upon the authorities in Connecticut a natural sequence of the school atmosphere.

The evidence before us leads irresistibly to the conclusion that the right of these persons to practice medicine under the statutes in Connecticut was a privilege obtained by fraud and deceit. That if the board of eclectic examiners acting honestly in the discharge of its duty in the premises were conversant with all the facts in connection with these persons they would not have been permitted to take the examination, and therefore were never rightfully entitled to receive the certificate from the state board of health giving them the privilege to practice as members of the medical profession.

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THE GRAND JURY,
By Benedict M. Holden,
Foreman.

Book Notices

COLONIC THERAPY IN THE TREATMENT OF DISEASE. By O. Boto Schellberg. Cloth. Price, $5 net. Pp. 202, with 23 illustrations. New York: American Institute of Medicine, Inc., 1923.

To the vast number of books on gastro-intestinal subjects comes now another which bids fair to outdo all of the past in its promise of cure of the many ailments to which the body is heir. For if, as the author states, "mechanical retardation of intestinal residue is undoubtedly the cause of more morbidity and mortality than all other physical effects combined," and "many diseases usually considered chronic and fatal can be arrested and entirely cured by artificial drainage," then surely the magic wand, in the form of colonic irrigation, would, by the adept hand of him who can insert a specially improvised tube in the cecum at will, be a most wonderful addition to the physician's armamentarium. Endocrine and metabolic imbalance are corrected, and gastroptosis and other conditions cured, by "thorough cleansing out of the entire length of the colon with large quantities of medicated fluid, which are quickly absorbed into the blood stream; the secretory organs, the liver in particular, are flooded, and the kidneys thoroughly washed out, the entire blood stream being in this way freed of its impurities." Bacteriologists will be surprised to learn that *Bacillus acidophilus* can be found in the intestine eight years after its implantation, while pharmacologists will be enlightened as to the stimulating effect of the compound cathartic pill on the endocrine system. Such and other remarks of similar caliber cannot but vitiate any good that might be derived from a reading of this book. There is no question of the importance of intestinal stasis in disturbing normal equilibrium; but only by clear, concise and scientific statements can any author hope to impress his readers. There is undoubtedly a definite virtue in colonic irrigation. This has been proved many times. Mr. Schellberg is, however, overenthusiastic. The first part of the book is devoted to a discussion of the effect of food on the development of the intestinal canal, and an inadequate description of its physiology and anatomy. The rest of the book deals with the technic of irrigation. The reports of case histories are unconvincing. The names of most of the leaders in gastroenterology in this country and abroad are conspicuous by their absence in the bibliography. The binding of this book is very attractive.

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D., Professor of Medicine in Harvard University. Eighth edition. Price, $5 net. Pp. 536, with 285 illustrations. New York: William Wood & Co., 1923.

The chief changes in the eighth edition are the rewriting of the paragraph on emphysema and the chapter on electrocardiograms; the addition of roentgenograms, and the increased attention to the value of roentgen-ray study in pulmonary and genito-urinary diseases. As in previous editions, the expositions are orderly and concise; the illustrations plentiful and well selected. The book is deservedly popular as a textbook.

ARBOREAL LIFE AND THE EVOLUTION OF THE HUMAN EYE. A Revised Publication of the Bowman Lecture Delivered Before the Ophthalmological Society of the United Kingdom in May, 1922. By E. Treacher Collins, F.R.C.S., Consulting Surgeon, Royal London Ophthalmic Hospital (Moorfields). Cloth. Price, $1.75. Pp. 108, with 26 illustrations. Philadelphia: Lea & Febiger, 1922.

In 1883, the council of the Ophthalmological Society of the United Kingdom resolved that, in recognition of Mr. William Bowman's distinguished scientific position in ophthalmology, there should be held before the society each year a lecture by some distinguished person, to be called the Bowman

Lecture. This booklet, which has been made available to American readers through the efforts of Dr. W. C. Posey of Philadelphia, is the twenty-second Bowman Lecture, as delivered by Mr. Collins in 1922. It is really a philosophical study of the evolution of the human eye, considered from the standpoints of field of vision, light sense, form sense, accommodation and convergence, color sense, and the protective mechanism of the eyeball. To any one with scientific or philosophic inclination, this booklet is a joy. The purport of the lecture is well summed up in the last paragraph:

In conclusion, I would claim that the changes in the visual organs of mammals, produced by the adoption of arboreal life, increased both the range and accuracy of their powers of observation for natural phenomena. It was in this way that the portal became opened for the evolution of the mental faculties of memory and inference — faculties which enabled man's anthropoid ancestors, on descent from the trees, to subdue their foes, to become successful hunters and to adopt an omnivorous diet. It would seem, therefore, that some such study of the visual organs as I have attempted in this lecture is necessary for fully understanding the way in which man gained his predominant position in the animal kingdom.

AN INTRODUCTION TO THE STUDY OF MENTAL DISORDERS. By Francis M. Barnes, Jr., M.A., M.D., Associate Professor of Nervous and Mental Diseases in the St. Louis University Medical School. Second edition. Cloth. Price, $3.75. Pp. 295. St. Louis: C. V. Mosby Company, 1923.

In this volume the author has combined his earlier works, "Introduction to the Study of Mental Diseases" and "Notes on Mental Diseases." The book is intended for the use of medical students and social workers. In the earlier chapters are given a history of psychiatry and a discussion of the aims of mental hygiene in relation to general medicine and society, wherein much stress is laid on the deterministic view of behavior and the importance of the interpretative study of mental disorders. These excellent principles are, however, little considered in the later presentation of the subject, which consists of a decidedly formal and descriptive account of certain psychologic abstractions and mental diseases. One cannot but feel that the student will find the subject dry and its study an effort of memory rather than a basis for reasoning and understanding. From the introductory chapters one would be led to expect an account of disorders in behavior, their mechanisms and rational treatment, that is to say, the underlying principles of modern psychiatry, which would do much to develop the interest of the medical student in this much neglected field and be of service to the social worker; but in this respect the work is disappointing. To those who are looking for a brief statement of the formal symptoms of the insanities, it may be said that the descriptions are concise and fairly inclusive.

L'ENCÉPHALITE LÉTHARGIQUE: SES PARTICULARITÉS EN BELGIQUE. La clinique; l'expérimentation. Par les Docteurs L. Van Boeckel, directeur du laboratoire de l'Administration de l'hygiène, A. Bessemans, inspecteur au laboratoire de l'Administration de l'hygiène, et C. Nelis, professeur a l'Université de Louvain. Paper. Pp. 698, with 152 illustrations. Brussels: Imprimerie Ch. Nossent et Cie, 1923.

This large volume, compiled under the auspices of the Belgian department of hygiene, in its scope and arrangement resembles the well known British report issued in 1922. It gives a general description of the disease, with review of the literature, and a huge bibliography, which occupies 160 pages. The experiences with the disease in Belgium are related; the various types and peculiarities seen are illustrated by thirty-two case histories. The chapter on pathologic anatomy and histology by Nelis is quite complete, and records the personal investigations of the author. Not less than 204 pages are devoted to a survey of the bacteriology and various etiologic theories, also with an account of original work.

CLINICAL LABORATORY DIAGNOSIS. Designed for the Use of Students and Practitioners of Medicine. By Roger Sylvester Morris, A.B., M.D., Professor of Medicine in the University of Cincinnati. Cloth. Price, $6. Pp. 456, with 99 illustrations. New York: D. Appleton & Co., 1923.

This book was designed for students and clinicians. The best methods of laboratory diagnosis, including the latest, are presented. The book is authoritative and complete, and the material is well arranged. There are a number of colored plates. There are many other illustrations some of which are not clear. A book as useful as this deserves a better binding.

Medicolegal

Marriage Not Annulled for Concealing Epilepsy

(Richardson v. Richardson (Mass.), 140 N. E. R. 73)

The Supreme Judicial Court of Massachusetts, in affirming an order dismissing the petition in this case, says that the petitioner asked for an annulment of marriage on the ground that the respondent was suffering from epilepsy at the time of the marriage and fraudulently concealed that fact from him. The trial judge found that the parties were married, Aug. 8, 1920, after an acquaintance of about four months; that the respondent knew she had long been suffering from epilepsy, but told the petitioner merely that sometimes when overworked she had fainting spells which were not serious; that the marriage was consummated on various occasions up to Sept. 8, 1920; that she had one or two attacks of the disease during that period, but that he learned the nature of her ailment for the first time on the latter date; that he then ceased to occupy the same bed with her, and that since Sept. 29, 1920, the parties had lived apart. The judge further found, from medical testimony, that epilepsy is an incurable disease, and is hereditary. He ordered the petition dismissed, being of the opinion that it could not be granted under the law of Massachusetts, and reported the case for determination by this court. By the law of this commonwealth, marriage is regarded as more than a civil contract. After cohabitation, at least, it ripens into a status that affects the parties thereto, their posterity and the whole community. It is settled by the decisions of this court that fraud, in order to avoid a marriage, must go to the essence of this contract. Concealment by a woman of her previous unchastity will not ordinarily render a marriage invalid. The same is true of the concealed existence of syphilis in one of the parties, although it was held in one case, in which there had been no consummation, that the court had power to enter a decree for the petitioner. But this court is not aware of any case in Massachusetts in which the fraudulent concealment of a disease other than venereal has been considered on the question under consideration, except one in which it was held that concealment of the fact that the woman had been insane previously to her marriage, she being sane at the time of the marriage, did not entitle her husband to have the marriage dissolved even though she subsequently became incurably insane.

Board of Health Versus Board of Education as to Requiring Vaccination

(People ex rel. Hill, Health Officer, v. Board of Education of City of Lansing et al. (Mich.), 195 N. W. R. 95)

The Supreme Court of Michigan says that it held, in *Mathews* v. *Kalamazoo Board of Education*, 127 Mich. 530, 86 N. W. 1036, that when there was no case of smallpox in the district, it was beyond the power of the board to require vaccination of pupils as a condition of admission to the schools. But during the winter of 1922-1923, smallpox existed in the city of Lansing, and the board of health and the board of education worked in harmony for a time. January 8, the board of health passed a resolution directing that steps be taken to prevent the spread of the disease, these steps including quarantine and free vaccination. On the 25th, it adopted a further resolution requiring the exclusion from the public schools of school children, teachers and janitors who had not been vaccinated. Five days later, the board of education passed a resolution reciting that there were but seventeen cases of smallpox then existing in the city, and directing the admission of children to the schools who had not been vaccinated. This proceeding in mandamus was then instituted to require the enforcement of the regulations of the board of health. The writ was issued, and the judgment of the court issuing it is here affirmed.

This court is plowing no virgin field in considering the questions here involved. Numerous decisions, both federal and state, have considered the questions here before this court. They are not all in accord and in some instances are not reconcilable. There is, however, a very marked trend in them

in one direction, that which upholds the right of the state, in the exercise of its police power and in the interest of the public health, to enact such laws, such rules and regulations, as will prevent the spread of this dread disease. But it was contended here that, assuming the state has power to require vaccination of children as a condition of admission to the public schools, such power can only be exercised by the legislature, and cannot be, and has not been, delegated to the local health boards. Yet the details, what shall be done as different situations arise, must, of necessity, be left to some administrative body. Section 5081 of the Compiled Laws of Michigan of 1915, provides that:

> When the smallpox, or any other disease dangerous to the public health, is found to exist in any township, the board of health shall use all possible care to prevent the spreading of the infection, and to give notice of infected places to travelers, by such means as in their judgment shall be most effectual for the common safety.

By this statute very broad powers to deal with this dread disease are conferred. The language of the section permits the board to work out the details necessary to prevent the spread of the disease. There must be some elasticity, in order to meet effectually varying conditions, and the legislature has seen fit to fix the ultimate purpose of the regulations to be the "common safety" and to leave the details necessary to work out that purpose to an administrative board. This court cannot say on this record that the members of that board chose the wrong means, or that they lacked the power in the exercise of their honest judgments to make the regulation here considered. The courts are always open to review the arbitrary action, the abuse of discretion, of an administrative body. But this court would not be justified in holding in the instant case that the action of the board of health was arbitrary, or that it had abused its discretion. When we consider that one child may innocently communicate the disease to all its playmates in school, and realize how quickly the scourge spreads, unless restrained, it becomes evident that courts ought not to stay the hands of an administrative board, seeking to protect the public health, unless clearly convinced that the board is acting arbitrarily and in abuse of discretion. Courts ought not under such circumstances to figure out with pencil and paper percentages and probabilities, and say to such board we will substitute our judgment for yours, and unless a certain percentage of the population is stricken, you may not act. Furthermore, this court thinks that the board of health was to be commended, instead of condemned, for applying to the court to enforce its order rather than to attempt its enforcement by "brute force," and that the writ of mandamus was properly issued.

Inquiry as to Agreeing to Physician Testifying—Privilege Not Waived

(Brookhaven Lumber & Mfg. Co. v. Adams (Miss.), 97 So. R. 484)

The Supreme Court of Mississippi, Division A, in affirming a judgment for damages for an injured employee of the defendant company, holds that no harm can result to the defendant in a personal injury suit by the refusal of the court to permit the defendant to ask the plaintiff, when testifying in his own behalf, whether he would agree that a physician who treated him might be introduced as a witness and testify as to his injuries. A reason given why that was so in this case was that the witness's consent could have been obtained from him as well when he was off, as when he was on the witness stand. Another, and unexplained, reason was that an affirmative answer would not have bound him. Perhaps that was because he lacked several months of being 21 years of age when his injury occurred, and this suit was brought by his father as next friend.

The court also holds that, under Section 3695 of the Code of 1906 of that state, Section 6380 of Hemingway's Code, a physician is incompetent to testify to facts that come to his knowledge by virtue of his being employed by a patient as a physician, and the patient does not waive the privilege because he introduced as a witness in a personal injury suit another physician who testified for the patient as to the same facts. Furthermore, so to apply the statute does not deprive the defendant of either due process, or equal protection, of the law.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Montgomery, April 15-18 Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Secretary.
American Association of Anatomists, Buffalo, N. Y., April 16-19. Dr. Lewis H. Weed, Johns Hopkins Medical School, Baltimore, Secretary.
American Climatological and Clinical Association, Atlantic City, May 1-3. Dr. Arthur K. Stone, Framingham Center, Mass., Secretary.
American Gastro-Enterological Association, Atlantic City, May 5-6. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.
American Gynecological Society, Hot Springs, Va., May 15-17. Dr. A. H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.
American Orthopedic Association, Baltimore, May 15-17. Dr. Forrest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Surgical Association, Baltimore, April 17-19. Dr. Robert B. Greenough, 8 Marlborough Street, Boston, Secretary.
Arizona Medical Association, Phoenix, April 24-26. Dr. D. F. Harbridge, Goodrich Building, Phoenix, Secretary.
Arkansas Medical Society, Fayetteville, May 20-22. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.
Association of American Physicians, Atlantic City, May 6-7. Dr. Thomas McCrae, 1929 Spruce Street, Philadelphia, Secretary.
California Medical Association, Los Angeles, May 12-15. Dr. Emma W. Pope, Balboa Building, San Francisco, Secretary.
Georgia, Medical Association of, Augusta, May 9-11. Dr. Allen H. Bunce, Healey Building, Atlanta, Secretary.
Hawaii, Medical Society of, Honolulu, April 26-28. Dr. W. K. Chang, McCandless Block, Honolulu, Secretary.
Illinois State Medical Society, Springfield, May 6-8. Dr. W. D. Chapman, Silvis, Secretary.
Iowa State Medical Society, Des Moines, May 7-9. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.
Kansas Medical Society, Wichita, May 7-8. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.
Louisiana State Medical Society, Opelousas, April 21-24. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 22-24. Dr. J. A. Chatard, 1211 Cathedral St., Baltimore, Secretary.
Mississippi State Medical Association, Jackson, May 13-15. Dr. T. M. Dye, Clarksdale, Secretary.
Missouri State Medical Association, Springfield, May 6-8. Dr. E. J. Goodwin, 3529 Pine Street, St. Louis, Secretary.
National Tuberculosis Association, Atlanta, Ga., May 7-10. Dr. George M. Kober, 370 Seventh Avenue, New York, Secretary.
Nebraska State Medical Association, Omaha, May 13-15. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.
New York, Medical Society of the State of, Rochester, April 22. Dr. Edward L. Hunt, 17 West 43d Street, New York, Secretary.
North Carolina, Medical Society of the State of, Raleigh, April 15-17. Dr. L. B. McBrayer, Sanatorium, Secretary.
Ohio State Medical Association, Cleveland, May 13-15. Mr. Don K. Martin, 131 East State Street, Columbus, Secretary.
Oklahoma State Medical Association, Oklahoma City, May 13-15. Dr. C. A. Thompson, 508 Commercial Nat'l Bank Bldg., Muskogee, Sec'y.
South Carolina Medical Association, Orangeburg, April 15-17. Dr. Edgar A. Hines, Seneca, Secretary.
Tennessee State Medical Association, Knoxville, April 8-10. Dr. J. F. Gallagher, Jackson Bldg., Nashville, Secretary.
Texas, State Medical Association of, San Antonio, April 29-May 1. Dr. Holman Taylor, 207½ W. 11th Street, Fort Worth, Secretary.
Western Electro-Therapeutic Association, Kansas City, April 17-18. Dr. Charles Wood Fassett, 115 E. 31st Street, Kansas City, Mo., Secretary.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Thirty-Fourth Annual Meeting, Held on the University of Nebraska Medical Campus, Omaha, Feb. 28-29, March 1, 1924

The President, DR. IRVING S. CUTTER, Omaha, in the Chair

Basic Principles of Clinical Teaching

DR. IRVING S. CUTTER, University of Nebraska: Inquiry disclosed that of the graduates of the last five years of a selected group of schools, approximately 80 per cent. had entered general practice and were compelled to learn many of the fundamental procedures of practice by experience. The reasons given for this state of affairs were: 1. A large part of the student's time is wasted in the clinical years in studying rare cases. 2. Clinical instructors fail to emphasize the management of the case. 3. The graduate is unable to diagnose and handle properly cases of common, ordinary ailments. 4. Emphasis on therapeutics is inadequate. It is true that many clinical teachers tend to hold "interesting" clinics by showing rare cases, and place too much emphasis on diagnosis. The management of every case should be emphasized. Rarely are clinical teachers with a therapeutic bias appointed to give clinical lectures. The factor that looms largest in outlining the essentials of good clinical teaching is the teacher. In teaching ability, European teachers of medicine are, as a rule, far in advance of American teachers. The present day plan of securing specialists as clinical teachers is unquestionably

the best in the long run. Specialists who have been general practitioners or who have had a training equally broad are best qualified to give the student the correct point of view. At present, many clinical teachers are not sufficiently well trained in the preclinical sciences. There is no more certain way of ruining the student's attitude toward the strictly laboratory sciences than to place over him a teacher of internal medicine who cannot think in terms of physiology.

An Experiment in Interdepartmental Correlation

DR. DON R. JOSEPH, St. Louis University: Isolated, uncorrelated information is of little assistance to the student. He cannot use it. Where in the medical curriculum should there be correlation? There seems to be rather general agreement that it is needed between the preclinical and clinical years. There can be little doubt that such a process would yield beneficial results if it were applied to the teaching of the respective clinical departments. But integration is as badly needed between the various departments of the so-called fundamental years as anywhere in the medical course. In my department of physiology, efforts at interdepartmental correlation have been made for eight years. When the chemistry of muscle or blood, or the chemical reaction of body fluids was being discussed, the biochemist was called in to present the more important points that he gave the previous year on these subjects. So, too, the anatomist, the teacher of physical diagnosis, and the teacher of nervous and mental diseases have been called in, and the students are held responsible at examination time for material presented in this way. For four years an experiment in interdepartmental correlation has been in progress between the departments of physiology and internal medicine. It consists of one two-hour period a week for the juniors throughout the second half of the year. The subject matter to be presented was selected and outlined and assigned to the participating members of the two departments. The department of physiology presented the normal physiology, and the department of internal medicine presented the pathologic and clinical aspects. Finally comes a discussion of points of special interest. Also, frequent joint staff conferences are held. The students are assigned to work in pairs, and every one has to present at least one paper. At the first class the librarian explains literary research, the preparation of a bibliography, etc.; a staff member discusses the preparation of papers. These papers are read in class and discussed. The delivery of the speaker, his English, pronunciation of proper names, enunciation, etc., also are criticized.

Medical Clinics to First Year Classes

DR. O. H. PERRY PEPPER, University of Pennsylvania: I am strongly in favor of these classes. They convince the student from the outset that what he is learning in anatomy, physiology and biochemistry is of practical importance. He realizes at once that he is a student of medicine and that every hour in the curriculum is aimed toward an end. His clinical sense is developed early, and he is started right on the road of kindly dealing with patients. The teachings of the science teachers is amplified, and medical terminology is taught early. And the interest of the student is stimulated, his appetite for medicine is whetted, and his curiosity is excited. Medical flavor is given to courses taught by nonmedical men. Since last year our school has given one clinic a week to the first year students. The subjects with which correlation has been attempted are anatomy, physiology and biochemistry. Patients were always used, except once when necropsy material was employed and on two occasions when a lantern demonstration replaced patients.

DISCUSSION ON PAPERS OF DRS. JOSEPH AND PEPPER

DR. CHARLES P. EMERSON, University of Indiana: For too many years we have been following the false illusions and the false gods of the German physiologic school, and it is time we stopped and began to teach medicine. Dr. Joseph's attempt to correlate the departments in the medical school is an important thing. I am a little bit more worried, though, about correlating the men in the same department. There may be two men, both very good, who express different points of view. The better those men are, the greater are the chances that they will more positively stick to their own opinions, and it is very important in each department to see that those different men are correlated, if we may use that term, before the medical students. In Indiana, we are trying to correlate the subject to the intern, especially in the university hospital, and to the younger members of our faculty, especially the recent graduates in the dispensary. We have what we call a seminar once a month. At that seminar the students do not speak very much, but the interns and the younger teachers are encouraged to discuss questions on the advancement of medicine and surgery and also colloid chemistry, etc.

DR. WILLIAM DARRACH, Columbia University: I firmly believe in this method of teaching. I feel that in this way a more proper balance can be instilled into the minds of the oncoming practitioners than in any other way, and that better balance is less of a shock to that student if it is introduced early, than if he has a sudden change from what we might call the ultrascientific attitude to the ultraclinical attitude which so many students meet today; that is, he suddenly shifts from the preclinical to the clinical work without any bridge or gradation between the two forms. I can see how it would be necessary for most of us clinical men to pay a great deal of attention to lectures given in preclinical subjects lest we lead them into a false idea as to the value of the scientific work.

DR. WILLIAM KEILLER, University of Texas: I recognize very thoroughly the value of this course of Dr. Pepper. I have grave doubt about the value of the course to the student. Theoretically it is all wrong. It is tending toward that little knowledge which is a dangerous thing; it is tending toward giving them an idea that they know all about it when they do not know anything about it. The idea that we can possibly teach men anything like satisfactorily the clinical work before they have a good grasp of their basic material of anatomy and biologic chemistry and pathology is going way back to the old preceptor days. I am not converted.

DR. DAVID L. EDSALL, Harvard University: I have been interested in the correlation question for many years. The one thing that stands out in my mind most prominently is that we accomplish comparatively little by a formal and self-conscious method of correlation. The thing must be done in some way that makes the student do the correlating rather than doing it for him. When there is a liberal amount of talking to the student about it in giving it to him, it soon becomes really a modified form of spoon feeding.

DR. G. CANBY ROBINSON, Vanderbilt University: It is helpful for the student to see the pathologic lesion in the living at the same time that he is discussing it and studying it in the gross specimen at the necropsy and under the microscope; and it is rational to start at that point and from there correlation can be further developed, but I feel that it might be begun in perhaps a more simple way and with less machinery, so to speak, by beginning in this manner.

DR. J. PARSONS SCHAEFFER, Jefferson Medical College: I wholly disagree with Professor Keiller from the point of view of an anatomist. I am absolutely and wholly in accord with any scheme whereby the freshman student is brought into contact with the patient immediately. I agree with Dr. Pepper that clinics should be given by clinical men.

DR. CHARLES N. MEADER, University of Colorado: One point of view that ought to be emphasized more than it has been is the effect of these correlation courses on the faculty. Unless the preclinical faculty is in sympathy with the idea and realizes the value of that correlation, and unless members of the clinical faculty are in sympathy with the idea and are willing to carry out the correlation, only the high spots can be touched. A course of this sort emphasizes the correlation not only to the students but particularly to the faculty.

DR. C. C. GUTHRIE, University of Pittsburgh: Correlation means a good many different things. Before we can solve that question, the faculties themselves must have a common point of view, and the first step is the correlation of the laboratory subjects themselves. After the laboratories begin to correlate, then they can begin to correlate with the physician.

Teaching of Pharmacology

DR. WALTER L. BIERRING, National Board of Medical Examiners: At present there are well organized laboratories of

pharmacology in all but one of the seventy-two Class A medical schools. A considerable number of departments of pharmacology have been established on a full-time teaching basis. In twenty-seven schools, the subject is still taught in connection with physiology or biochemistry. In five schools, a medical clinician is in charge of this teaching. Considerable variation still prevails in the designation of this department. These combinations of chairs no doubt influence the teaching of pharmacology. The course is given in any one or more of the four years. The content of the course also varies considerably according to the views of the teacher and local conditions. Prescription writing is sadly neglected and is largely responsible for want of progress in scientific therapeutics and for the corresponding invasion of proprietaries. If the study is to be made interesting to the student, it seems imperative to teach pharmacology hand in hand with early clinical work.

DISCUSSION

DR. HUGH MCGUIGAN, University of Illinois: Medical students and medical men should know more of plant analysis. Pharmacology is one of the easiest subjects to teach in the whole medical curriculum. A course in pharmacy for medical students should be perhaps different from a course that is given to the ordinary pharmacist. Perhaps more of the philosophy of the analysis should be put in there and more of the reasons for things than he would get in a regular course. My own impression in following those men through in a hospital, in watching them on their diagnosis and comparing them with the older men and especially with the men on the outside, is that I would take the recent graduate every time if I wanted a diagnosis made. The big failing of the medical student today is that he cannot write prescriptions, although he knows vastly more about the action of drugs and is a far safer man than many of those who can write prescriptions with facility.

DR. C. F. MARTIN, McGill University: In our university effort has been made to make the laboratory correlate with physiology and therapeutics, and with that end in view the professor of pharmacology correlates his work with the clinical pharmacologist who is in the department of medicine; and the clinician who goes around the ward with preliminary training adds his experience.

Increasing the Number of Admissions to Medical Schools Without Increasing Physical Equipment

DR. BURTON D. MYERS, Indiana University: Many laboratories stand idle half the time or more than half. Table space may be used by succesive groups so as to double the number of students without increasing the physical equipment. Laboratories could be used each semester. This would require an increase in the staff but no greater than would be required to accommodate the same increase in enrolment at one time in double the laboratory space. The same end could be accomplished by condensing courses. By utilizing the summer quarter, two sections could be enrolled, one in September and one in January, each ending nine months afterward. The four quarter system is perhaps the best method of accommodating an increased enrolment without increasing physical equipment. Still another method consists in splitting the fall semester into two nine weeks teaching units. One group of students begins in September and ends in June; the other group begins about the middle of November and ends about the middle of August. At Indiana we have been experimenting with the latter plan. It does not conflict with state board rules. The plan has possibilities worth considering. All things considered, the quarter system with a September-June and January-September session is probably the best adjustment.

DISCUSSION

DR. HUGH CABOT, University of Michigan: In all education, and not less in medical education, we have not been utilizing our equipment to the fullest; there are long periods when both laboratory and lecture rooms stand idle, and it is often true that the giving of more space of this kind is the most serious part of the problem. One thing that I do fear is the tendency which such a plan will have to increase the demand made on the teaching staff. I have a feeling that, particularly in the preclinical years, we are at present making a full demand and perhaps an excessive demand on the time of men for pure teaching and thereby considerably curtailing their usefulness in investigation, and that an option of the four-quarter system will intentionally, perhaps, but more or less inevitably, put more strain on them in the way of teaching requirements and cut down still further their possibilities of productive work.

DR. WILLIAM PEPPER, University of Pennsylvania: A laboratory can be used morning and afternoon if necessary; it can be used every day in the week instead of two or three times a week, if necessary. The problem is more one of personnel. It is an economic problem of supply and demand, but there is nothing very encouraging in the outlay at present. It is hard enough to get the instructors needed to teach our present size classes. I would hesitate very much favoring any plan of increasing the number of students unless an adequate number of instructors fully qualified could be found.

DR. E. P. LYON, University of Minnesota: The point has not been emphasized so much in regard to the hospital side of medical teaching. It has always seemed to me that, while we regret to see great laboratories remain largely unused through a long vacation, it is next thing to criminal to see hospitals and dispensaries going on during this period unused because there the expense keeps up just the same. We do use the hospital facilities that we have as much in the summer as in any other quarter. Our clinical facilities are used throughout the year. On the laboratory side we still run under the summer school plan, and a student can not gain any time by taking the summer quarter. Occasionally a student does, but not many do. We have no arrangement as yet for taking classes in the freshman year.

DR. ROSS V. PATTERSON, Jefferson Medical College: I quite agree with what has already been said with regard to the chief difficulty of continuous instruction. It is not a matter of facilities nearly so much as it is a matter of getting a teaching corps of sufficient size to carry on the work throughout the year.

Determination of the Content of Professional and Preprofessional Training

DR. SAMUEL P. CAPEN, University of Buffalo: Medical education is not self-contained; the more highly it is developed, the more varied and significant do its interrelations with the other parts of the educational system and with the other activities of the community become. But medical education has become enormously expensive. That is a serious matter. In many instances a large proportion of the total amount spent on medical training represents a direct loss to other forms of higher education. But in spite of all this, leaders of the profession are dissatisfied with the results. Students are not well enough prepared when they enter the medical school, and the medical curriculum does not register. A certain amount of confusion as to the purpose of the premedical requirement seems to have arisen. I think that the proposition is tenable that the premedical course as it exists today may be defined as professional education extended downward. At any rate, it is obviously not general education designed primarily to broaden interests and the understanding of the student. The two-year premedical course has not brought into the medical schools men either of that breadth of interest and mental maturity that some of the early advocates of preprofessional education hoped for, or, on the other hand, men sufficiently prepared to attack the technical subjects of the first year in a manner satisfactory to medical faculties.

Medical education has come to be measured and judged almost wholly in terms of time spent. The conclusion forces itself on medical faculties that the whole plan of medical training is pedagogically unsound. It violates the laws of learning. To give all the theory first and to withhold the practice that enlightens the theory until the end, is a pedagogic sin.

For the sake of college education and medical education, a concerted movement should be made to lift hampering restrictions so as to allow respectable colleges and medical schools latitude for experimentation. The reform of medical training is a joint problem of the colleges and the medical schools. We must determine what premedical education is for. The determination of its content should be left to the college

unless the course should be specific; then its content is a part of six years of training in medicine, and it becomes a single unified problem. Theory and practice must not be divorced.

The Intern Problem

DR. NATHANIEL W. FAXON, American Hospital Association: General hospitals provide the best conditions for a basic intern training by means of a rotating service. To provide the necessary continuity, it is necessary to supplement such a service with a resident service. Residences also offer additional opportunities to those interns who desire to continue their training. It will tend to encourage general practice and discourage the early choice of a specialty. The two-year rotating internship undoubtedly will give better training, will require fewer interns, and will permit all places to be filled in July immediately after graduation. In the majority of cases, a rotating service of one year will provide a foundation for further training and will be the minimum training necessary to equip the medical graduate for active practice. Local conditions may make a rotating service undesirable. Each hospital must work out that form of service best adapted to its needs. Were time not a factor, it could be stated that it would be more profitable for an intern to take service in one department of medicine at a time. The value of nonrotating service is most apparent in special hospitals, maternity, etc. It would be fair to suggest that a rotating service of one year, providing training in laboratory work, medicine, surgery and obstetrics, be established as the standard internship. Residences for graduate interns should be established to improve the service to patients and to provide opportunities for further training. Nonrotating internships should be encouraged in special hospitals. Control of the intern period by the college, although an interesting administrative detail, is nevertheless not essential to the working out of the intern problem. As to the appointment of interns—the time of selection—joint action by the Association of American Medical Colleges and the American Hospital Association would eliminate this difficulty.

DISCUSSION

DR. FRED C. ZAPFFE, Chicago: An inquiry made among the four year schools in membership in this association disclosed these facts: About 470 of the 1923 graduates of fifty-three schools did not take internships but went immediately into practice. If these men had gone to the approved hospitals, these would not have had any, or, at most very few, intern vacancies. Nearly all the colleges should have placed more interns—because few, if any, schools distinguish between approved and nonapproved hospitals. The time preferred for the selection of interns is sometime in March, and the basis of such appointment is certification by the dean, usually without written examination. It is further interesting to note that only 44.4 per cent. of the hospitals of this country have a clinical laboratory, and that of the several hundred hospitals of more than 300 bed capacity, 24 per cent. are without a laboratory. This would strengthen the position taken by medical colleges that a fifth or intern year cannot at this time be made the requirement for graduation, especially in view of the fact, as well as those already mentioned, that the college is without control over the student during his internship. As a state requirement for licensure it is greatly to be desired—if the state will define the hospital in which such service should be taken.

DR. WILLIAM DARRACH, Columbia University: At the meeting last year, the point was brought up as to the time that hospital appointments should be made. It is more of a problem than this association can handle by itself; it is more than this association with the American Hospital Association can solve, because it needs the cooperation of the groups in each individual place as well as the cooperation between the different cities. We have had meetings in New York for the last three years trying to accomplish something along this line. Each time we have about the same results—a hearty approval of the theory and an agreement to the practical application of it, provided the individual hospital has the privilege of appointing its interns first. A number of years ago, a combined examination was tried by some of the larger hospitals, but it was given up because of its unpractical character. If each one of us tries to meet the problem each in his own center, we shall come to an agreement and some working basis will be evolved that will prove practical and sound.

DR. RAY LYMAN WILBUR, Stanford University: This question of the intern year is of unusual significance because it has now gotten into the domain of many of our other medical problems, that of the law. We have enough vacant internships in this country to absorb our medical graduates. If they are not there, they could readily be created. We have various efforts made to increase the quality of the hospital opportunity, and more can be done there. Except for the students who graduate and go into laboratories for special work, all of our students ought to get that hospital experience. My inclination is to take this over as an educational problem. The hospital cannot escape its responsibility in education. We cannot escape our relationship to the hospital. It seems to me that the hospitals can be brought to the point at which they will permit us to take a large part in controlling their intern year. The intern needs other discipline and other training than that given to him in the hospital. He needs to be looking forward toward his future responsibility and to realize that he must make good with his own educational institution.

DR. ROSS V. PATTERSON, Jefferson Medical College: I see no great advantage to be gained by specifying the time of the appointment, except to relieve one of the annoyance of never getting the job quite finished in a definite period of time. I see no disadvantage to having the appointments made at any time during the session. Most of the dissatisfaction that goes out of hospital service is occasioned by students entering into contracts that they are afterward unwilling to fulfil, or hospitals selecting men on recommendations or certificates without having the opportunity of seeing them personally. I would rather deplore the assumption of the entire responsibility of appointing students to hospitals. I would prefer that most of that responsibility should be assumed by the hospitals. I would deplore anything that makes for rigidity and inflexibility.

DR. J. M. H. ROWLAND, University of Maryland: I see no way to make the matter uniform unless we are going to combine with some hospital association and, in conjunction with that association, name a time when all hospital interns shall be appointed. If everybody will live up to an agreement of that kind, of course the hospitals may appoint their interns at that time; but electioneering for interns probably will go on in spite of that. Many of the hospitals that are approved by the American College of Surgeons and by the American Hospital Association are hospitals that are certainly not qualified to carry on a fifth year of medical work. The very fact that this enormous percentage of hospitals has no clinical laboratory proves that without any question at all. The hospitals in Baltimore, to which we lose some of our best students, students that we should like to have in our teaching hospitals, are hospitals that do not have a vestige of clinical laboratory.

DR. C. F. MARTIN, McGill University: This problem has touched us very closely because we find that we have been compelled to change our method of appointments, owing to the early acquisition of our graduates by hospitals in the United States. We have always been in the habit of considering the merits of a man for resident work after his examination for his degree. Now we find that we have to respond to requests from many of the hospitals in the United States as to the adequacy of our men to fill positions, without knowing whether they are going to graduate. We should like, first of all, to be sure that they are going to graduate before we can give them certificates, and, secondly, we should like also to be able to give a certificate that means something as to his standing, because a man who stands very high deserves a better appointment. It seems to me more sound to appoint men after they have received their degree and after we know their standing than to appoint them in such a way as practically assures them they are going to get a degree which, after all, is not very certain.

DR. W. T. KEILLER, University of Texas: I cannot see that the objection made by Dr. Martin holds. If we do not know by the end of the third year just about what the man

is going to do, we do not have the kind of records of that man we ought to have.

The Fifth Year: A Retrospect

DR. L. S. SCHMITT, University of California: The fifth year requirement has been in effect in our school for six years. In the six years prior to the adoption of this requirement, 90 per cent. of the students voluntarily accepted an internship; of the remaining 10 per cent., 7 per cent. were in the lower third of their respective classes. Our experience has been that the fifth or intern year requirement should be in the nature of a practical test to determine the capacity of the student to practice medicine, and not a year added to the curriculum. It is a test of his mental background. Experience with a rotating internship covering all services and with an internship in which longer periods of service in the various departments is demanded tends to the opinion that the longer services are more desirable.

DISCUSSION

DR. ERNST C. DICKSON, Stanford University: We have the rotating plan with six services, the intern taking two months in each service. The hospital must guarantee satisfactory supervision of the work of the intern and must make a report as to the character of the work done by him. The scheme has been quite satisfactory.

DR. WILLIAM DARRACH, Columbia University: I am in grave doubt as to the wisdom of the fifth or intern year. Theoretically, every man who is going to practice should serve as intern in a hospital. One year is insufficient as an intern preparation; a year and a half or two years or somewhere in between is a minimum, while the best men will go on as assistant residents and residents for a much longer period. If we feel that the minimum is more than a year, why tack on this fifth year as a requirement for a degree? Moreover, there is a great deal of hesitation in our school of the men assuming the responsibility for work over which they have not a complete or relatively complete control.

DR. WILLIAM PEPPER, University of Pennsylvania: In Pennsylvania, a state law requires a fifth year. The graduate who intends to practice in Pennsylvania has to take an internship in an approved hospital, a rotating service. The Pennsylvania board has been able to improve greatly the services offered in Pennsylvania hospitals through that law. Any hospital that gives a service that is not approved of by them is taken off the approved list, and a graduate who goes to such a hospital gets no credit in consequence. I would urge that this fifth year be made a state requirement, because I believe that the state boards can exert much more pressure on the hospitals than the medical schools ever can. That, I think, has been the great benefit of that law. We have not felt that we would withhold the diploma until they had completed the year because we did not have any control over the men while they were in the hospital.

DR. ROSS V. PATTERSON, Jefferson Medical College: Obviously, the control of the intern service or the regulation or observation of intern service is limited on the part of the medical school. We have maintained for more than twenty years a committee on hospital appointments. Students are advised, and advised according to their best interests. They are encouraged to enter hospital service for as long as it is possible for them to serve. Many desire to go into the public service, and are advised to enter some hospital that will more particularly fit them for that work. It seems to me impossible to be responsible for work that cannot be controlled.

DR. WALTER L. BIERRING, National Board of Medical Examiners: I think that the purpose of state boards has been to follow the suggestion of this association that an additional year was necessary before a graduate should be licensed to practice medicine, and on that basis requirements in the form of statutes or amendments to the statutes or definite rules of state boards set forth the qualifications of this fifth year. When the national board was organized, its founders felt that they should formulate a test for the practice of medicine that should be expressive of the very best training in this country, and they followed the suggestions made by this organization and by the Federation of State Boards that this fifth year should be a hospital year; but they feel that they are perfectly justified in accepting candidates to take their examination who may have spent this fifth or additional year in an approved laboratory.

DR. DAVID L. EDSALL, Harvard University: I should be extremely grieved if this association expressed itself as definitely favoring a rotating service. I had experience with a rotating service, and with nonrotating services. I am strongly convinced that the latter produces the better man, the safer man for the public. I would not recommend the man who had gone to a hospital where he did only ophthalmic work, for example, and then was going to do general practice of medicine or something of that sort, but I would rather turn out to the public a man who had been through a good service in general medicine and general surgery and pediatrics, for example, than to turn out a man who had been in an equally good hospital but who had been through a rotating service.

DR. A. C. ABBOTT, University of Pennsylvania: I was delighted to hear what Dr. Bierring said with regard to the exceptions in favor of the man who is going to do only laboratory work. That involves such a small number of men that I think it is a pity to make an exception in favor of it, and, moreover, as a laboratory man I believe that every laboratory man is made a better laboratory man by his year in a good hospital. I am inclined to think as Dr. Edsall does, too, that the matter of specifying the kind of service is not of very great importance. I think it is more the character of the service. I should be inclined to discourage a student going to a strictly special hospital and would prefer for him to go to a general medical or a general surgical hospital or a hospital in which both services existed and let him put in his full time in one or the other. After all, the hospital service has as its object teaching him how to approach his cases and a good deal of the art of medicine which he does not get in the school and can not very well get more than smatterings of.

DR. N. P. COLWELL, American Medical Association: There are several reasons why this rotating service appears to the Council on Medical Education and Hospitals better than the nonrotating service. First of all, it is giving a man a touch of all types of cases which without the internship he would have to get out in his general practice. A number of institutions are extending the internship to eighteen months in order that rotation may not be so ridiculously frequent. That is the trouble with some of the hospitals having the rotating service—they rotate them too much and in too short a period for each of the departments of the hospital. Another reason for the general rotating service is in answer to this criticism that we are turning out specialists. A man takes his internship in one of the departments of the hospital and then thinks he is fully competent to go out and practice as a specialist. This is one of the things that is rushing men into specialization faster than they should go, and rushing them into specialization without the training that they should have in that particular field. No one should begin to prepare himself for the practice of any specialty unless it has been preceded by this rotating hospital service, which has appeared to be the essential to round out his basic undergraduate training.

DR. DAVID L. EDSALL, Harvard University: My comparison between the rotating and the straight service was intended to represent the man who is going into the general practice of medicine, in the first place. In the second place, it was not made between hospitals that have rapid rotation but hospitals that have rotating service of from twenty to thirty months and, on the other hand, the hospitals that have a straight service that lasts from sixteen to twenty months. I believe the latter produce the better men that I would rather recommend for the practice of medicine.

DR. C. A. HAMANN, Western Reserve University: Unless the medical school has control of the hospital or hospitals to which interns go, it is unwise to make that as a requirement. The intern year is not always an unmixed blessing to the young medical man, and we all know of hospitals in which the ideals that the young man may have formed or has been taught in his medical school are ruthlessly shaken and the man is developing habits of carelessness, slothfulness and other evils for which certainly the medical school would not like to be responsible.

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American Journal of Psychiatry, Baltimore

3: 403-591 (Jan.) 1924

*Dementia Praecox. C. B. Dunlap, New York.—p. 403.
Future of Mental Disease from Statistical Viewpoint. H. M. Pollock, New York.—p. 423.
*Mental Changes Associated with Pernicious Anemia. H. W. Woltman, Rochester, Minn.—p. 435.
Storehouse and Vegetable Preparation Rooms. I. G. Harris, Brooklyn. —p. 451.
Education and Interpretation: Two Essentials in Mental Hygiene Program. G. K. Pratt, Boston.—p. 463.
Voluntary Admission Law: Certain Legal and Psychiatric Aspects. W. Overholser, Harding, Mass.—p. 475.
*Control of Sleeplessness. R. McC. Chapman, Towson, Md.—p. 491.
New Saint Elizabeth's Hospital. W. A. White, Washington, D. C. —p. 503.
Concept "Nervous Child." B. Glueck, New York.—p. 515.
Morphologic Basis of Psychoneuroses. S. Naccarati, New York.—p. 527.
Centralized Control vs. Local Control of State Hospitals. S. D. Wilgus, Rockford, Ill.—p. 545.
Cadet Problems. H. N. Kerns, West Point, N. Y.—p. 555.
Sex Development and Behavior in Female Patients with Dementia Praecox. C. E. Gibbs, New York.—p. 567.

Brain Changes in Dementia Praecox.—On the basis of findings in the brains of eight cases, Dunlap is of the opinion that dementia praecox is less a structural brain disease than pellagra or alcoholism. In both of the latter conditions changes, if present in the brain, are not primary but are secondary, not so much to varying somatic conditions as to fairly specific somatic conditions. Dunlap's study strongly indicates that dementia praecox is completely lacking in any fundamental or constant alteration of nerve cells, though it shows, at times, within the brain the presence of nerve cell changes secondary to those varying somatic states found in so-called normal control cases. Dunlap suggests that any nerve cell alterations that may be seen in dementia praecox, might be termed a reaction of the nerve cells to various, mostly unknown, somatic conditions (plus postmortem and technical factors) such as operate in controls. Since these nerve cell reactions in dementia praecox seem in no way specific and are not constant or uniform; since they do not differ materially in degree or in kind from changes in the cells of control cases, it is justifiable to believe that they are dependent on the same general causes that operate in the controls and not on any special conditions existent in dementia praecox. In other words, the cell changes found do not seem related to dementia praecox.

Pernicious Anemia as Cause of Mental Disturbance.—Woltman emphasizes (1) the importance of pernicious anemia as a cause of mental disturbances; (2) the fact that pernicious anemia is more common than is generally believed; and (3) that this disease often escapes detection unless a low threshold of suspicion regarding it has been developed.

Control of Sleeplessness.—Among the methods of treatment of sleeplessness, Chapman says, hydrotherapy is one of the most valuable. The two most important hydrotherapeutic procedures for sleeplessness in psychotic cases are, the continuous bath and the cold wet sheet pack. The use of drugs in sleeplessness should be forbidden save in exceptional instances. Among the drugs that are most valuable, Chapman includes the bromids, trional, barbital (veronal), sulphonal and paraldehyd. Chloral hydrate is useful, but decidedly undesirable for frequent administration. Drugs should be varied, no one drug being used over a long period of time. There should be frequent discontinuance, and a placebo substituted if desired. In the psychoneuroses, the scientific and most desirable treatment must be, when possible, the release through psychanalysis of the underlying conflict, with the consequent relief of sleeplessness and other symptoms.

American Journal of Roentgenology and Radium Therapy, New York

11: 117-222 (Feb.) 1924

Cancer Therapy from Surgeon's Standpoint. E. G. Beck, Chicago.—p. 117.
Problem of Deep Therapy. G. Bucky, Berlin, Germany.—p. 137.
Diagnosis and Treatment of Enlarged Thymus. G. W. Grier, Pittsburgh.—p. 141.
Generalized Type of Osteitis Fibrosa Cystica. C. P. Harris, Houston, Tex.—p. 146.
Chondrogenesis Imperfecta-Achondroplasia-Chondrodystrophia Fetlais. Report of Cases. P. Lewin and E. L. Jenkinson, Chicago.—p. 155.
Pitfalls in Roentgenographic Diagnosis of Colonic Lesions. W. H. Stewart, New York.—p. 168.
Roentgenologic Diagnosis of Craniopharyngeal Pouch Tumors. K. G. McKenzie and M. C. Sosman, Boston.—p. 171.
Methods of Improving External Application of Radium for Deep Therapy. W. Stenstrom, Buffalo.—p. 176.

American Journal of Syphilis, St. Louis

8: 1-192 (Jan.) 1924

*Pulmonary Syphilis. C. P. Howard, Iowa City, Iowa.—p. 1.
*Quantitative Studies in Syphilis from Clinical and Biologic Point of View. IX. Arsenic Content of Blood After Intravenous Injections of Neoarsphenamin. J. D. Fordyce, I. Rosen and C. N. Myers, New York.—p. 34.
*Id. X. Arsenic in Human Milk After Intravenous Injections of Arsphenamin. J. A. Fordyce, I. Rosen and C. N. Myers, New York.—63.
Principles in Modern Recognition and Treatment of Syphilis. W. W. Graves, St. Louis.—p. 74.
Necessity for Intensive Treatment of Syphilis. H. S. Baketel, New York.—p. 91.
*Wassermann Test. 5. Reaction in Different Social Classes. D. L. Belding and I. L. Hunter, Boston.—p. 117.
*Two Thousand and Sixty-Six Wassermann Tests and Clinical Histories. J. Felsen and V. Christina, New York.—p. 130.
*Diagnosis and Treatment of Syphilis. R. A. Kilduffe, Los Angeles.—p. 142.
Concise History of Syphilis. I. C. Sutton, Rochester, Minn.—p. 155.
Syphilitic Alopecia. H. Goodman, New York.—p. 162.
Combined Nonspecific-Specific Therapy of Progressive Paralysis. H. E. Ahlswede, Buffalo, N. Y.—p. 166.

Syphilis of Lung.—Seven cases are reported by Howard. One patient had gummas in the lung, liver, spleen, subcutaneous tissues of the leg and the testes. He had an enlarged heart and atheroma of the aorta, and complained of cough, dyspnea and tachypnea. The variability of the chief complaint in these cases was striking. The complaints were: cough, indigestion, shortness of breath, choking spells, difficulty in walking and bladder control, double vision, paralysis of the right side and asthenia from rheumatism; in each case the history, physical examination or necropsy revealed pulmonary syphilis. The diagnostic criteria considered worth while were: absence of any grave symptom as fever, sweating or emaciation proportionate to the physical signs in the lung; a sputum constantly negative for the tubercle bacillus; the presence of other stigmata of syphilis; a positive Wassermann test and a positive therapeutic test.

Arsenic Content of Blood After Intravenous Injection of Arsphenamin.—Blood examined immediately after the injection of arsphenamin contained 37.9 per cent. of the arsenic administered. The maximum quantity of arsenic in the blood stream based on average values is found immediately after injection. The value expressed in milligrams of metallic arsenic per 100 gm. of dried specimen is 3.71. Observations made at intervals from five minutes to one year show that there is a gradual lowering of the arsenic content up to a period of one hour when the amount then becomes almost stationary.

Arsenic in Milk After Intravenous Injection of Arsphenamin.—Seventy-five specimens of milk taken from twelve nursing mothers under treatment for syphilis were analyzed by Fordyce et al. It was found that after intravenous medication with the arsenicals breast milk shows definite amounts of arsenic at various intervals, corresponding in some instances to the amounts found in the blood of treated individuals after the same lapse of time. The presence of arsenic in mother's milk is more constant than in either the blood or urine, and is found in appreciable amounts long after its administration. The deduction is made that a nursling probably receives sufficient arsenic in its daily feedings to be of some therapeutic value. Therefore, the energetic treatment of syphilitic mothers during lactation is advisable.

Wassermann Reaction in Different Social Classes.—The per cent. of positives in Wassermann surveys in pregnant women varies from 3.05 to 31.11. In 5,198 cases, which included 3.5 per cent. negroes, Belding and Hunter found 9.2 per cent. positive and doubtful, and 8.7 per cent. definitely positive. In general, the prevalence of syphilis increased as the social scale of occupations decreased, except in the so-called upper middle class which in this series gave the highest per cent. of positives.

Wassermann Tests and Clinical Histories.—In 2,066 Wassermann tests reviewed by Felsen and Christina and made for mostly on men between 20 and 30, 6 per cent. gave a positive reaction. Of this 6 per cent. more than half gave no history of syphilitic infection. Of those having a positive history of infection 82 per cent. gave a negative serologic reaction after various methods and periods of treatment, except eight patients, or approximately 2.4 per cent., who received no treatment. Of eight cases examined in the primary stage of the disease two gave a positive Wassermann reaction.

Syphilis is Curable.—Kilduffe asserts that syphilis is a curable disease, but it is a wise man—or a rash one who undertakes to say just when it is cured in a particular case. The price of safety is eternal vigilance.

Annals of Medical History, New York

5: 291-416 (Dec.) 1923

Physician in Papal Chair. D. Riesman, Philadelphia.—p. 291.
Richard Bright of Guy's Hospital. D. Rochester, Buffalo.—p. 301.
Osler, Student of Toronto School of Medicine. N. B. Gwyn, Toronto.—p. 305.
Molière and Faculty. J. W. Courtney, Boston.—p. 309.
Edward Cutbush. Nester of Medical Corps of Navy. F. L. Pleadwell.—p. 337.
Transylvania School and Oliver Perry Hill. D. C. Elkin, Boston.—p. 387.
Three Medical Pioneers in Norway. I. Kobro, Christiania, Norway.—p. 393.

Archives of Dermatology and Syphilology, Chicago

9: 1-148 (Jan.) 1924

*Lupus Erythematosus. J. M. H. Macleod, London.—p. 1.
*Roentgen-Ray Treatment of Skin Diseases. H. Fox, New York.—p. 13.
Radium in Dermatology. O. H. Foerster, Milwaukee.—p. 38.
Ultraviolet Ray Therapy in Dermatology. J. Butler, Minneapolis.—p. 51.
Erythema Dose of Radium. W. H. Guy and F. M. Jacob, Pittsburgh.—p. 73.
*Achromia Parasitaria. V. Pardo-Castello and M. M. Dominguez, Havana, Cuba.—p. 82.
*Generalized Steatoma. L. D. Cady, St. Louis.—p. 96.
Acute Syphilitic Transverse Myelitis. H. N. Cole, Cleveland.—p. 102.

Lupus Erythematosus.—Lupus erythematosus is not a pathologic entity due to one specific cause, but a peculiar cutaneous symptom which may be called forth by a variety of causes of a toxic or septic character. Of the predisposing causes, the most important is a delicate condition of the skin, either from hereditary weakness, an enfeebled state of health or a weak peripheral circulation, the common situation of the lesions being largely determined by anatomic reasons, such as the stretching of the skin over bone or cartilage. The actual cause is the circulation in the skin of some toxin resulting either from the impaired action of a diseased organ, or possibly eliminated by some local septic focus. MacLeod believes that in the present state of knowledge a direct etiologic connection with tuberculosis is not admissible.

Roentgen-Ray Therapy of Skin Diseases.—Fox believes that the roentgen ray is the best local remedy for the routine treatment of acne vulgaris, eczema, seborrheic dermatitis and lichen planus. In rosacea it is unsatisfactory except for its favorable effect on the acne-like lesions. In psoriasis it should be used with great caution and only in selected cases. It is also of great value in ringworm, favus, sycosis, folliculitis, infectious granulomas, mycosis fungoides, verrucous lesions or eruptions, plantar warts, vulvar pruritus, localized hyperhidrosis, keloid, basal cell epithelioma, lupus erythematosus, lichen nitidus and lingua geographica.

Achromia Parasitaria.—Pardo-Castello and Dominguez report thirty-six cases of a condition that may have been a parasitic skin disease produced by an aspergillus which they recovered in pure culture from the cutaneous lesions of six patients. This dermatosis appears in the form of dirty white spots, slightly inflammatory in the beginning, but which soon lose this aspect, becoming slightly scaly and later completely devoid of scales. The lesions are somewhat itchy, and in the chronic or last stage of development appear as whitish spots covered by apparently normal epidermis; indeed, one would think that the stratum corneum layer at least was intact. The condition resembles leukoderma syphiliticum. There are familial cases which seem to prove that the disease is contagious. Several cases in which autoinoculation was tried were negative.

Generalized Steatoma.—Cady records the case of a white man, aged 69, with 140 sebaceous cysts more or less symmetrically distributed over the body, excepting the face, scalp, legs, hands and forearms. The cysts were lined with cells from the sebaceous gland ducts and contained white sebaceous material or a yellow fatty substance. Only five similar cases are reported in the literature. A definite etiologic factor has not been determined.

Acute Syphilitic Transverse Myelitis.—Two cases of acute syphilitic transverse myelitis are reported by Cole. One occurred fifteen months after the infection and resulted fatally, necropsy revealing syphilitic vascular changes and softening of the lumbosacral cord, with accompanying pyelocystitis; the other, occurred two months after infection, accompanied by flaccid paralysis of the lower limbs, sphincter paralysis and decubitis, resulting in recovery through the use of arsphenamin and mercury. This is said to be the earliest case thus far reported in the literature.

Archives of Internal Medicine, Chicago

33: 157-280 (Feb.) 1924

*Analysis of Two Hundred and Twenty-Cases of Endocarditis: Subacute Bacterial Type. B. J. Clawson, Minneapolis.—p. 157.
*Effect of Certain Past Diseases on Vital Capacity. W. P. Shepard, Minneapolis.—p. 185.
*Properties of Young Erythrocytes in Relation to Agglutination and Their Behavior in Hemorrhage and Transfusion. R. Isaacs, Boston.—p. 193.
*Alimentary Leukocytosis in Various Pathologic Conditions. H. M. Feinblatt, Brooklyn.—p. 210.
*Blood and Plasma Volume in Obesity. G. E. Brown and N. M. Keith, Rochester, Minn.—p. 217.
*Mercuric Chlorid Poisoning. H. B. Weiss, Cincinnati.—p. 224.
*Insulin in Severer Forms of Diabetes. L. F. Frissell and J. Hajek, New York.—p. 230.
*Clinical Studies of Digitalis. I. Effects Produced by Administration of Massive Dosage to Patients with Normal Mechanism. D. Luten, St. Louis.—p. 251.

Subacute Bacterial Endocarditis.—In 3,890 necropsies, Clawson found that the heart showed infectious valvular injuries in 220. In 136 instances the heart had been preserved and was available for examination. The necropsy records were used for the remaining eighty-four. The findings are described in detail.

Effect of Disease on Vital Capacity.—The vital capacity was studied by Shepard in 611 male university students who gave histories of influenza, pneumonia, pleurisy, pulmonary tuberculosis or heart disease. Influenza and pneumonia appear to lower the vital capacity of a large group, although the change is slight. Pneumonia varies but slightly in its effect on the vital capacity, according to the age contracted. When pleurisy, pulmonary tuberculosis or organic heart disease is included among the past diseases of a group of persons, there is apparently a definite and probably a permanent lowering of the vital capacity of that group as a whole.

Erythrocytes and Agglutination.—Isaacs used a modification of Ashby's method in his study of this problem. He believes that resistance to agglutination is not due to absence of agglutinogens but to a membrane around the cell.

Alimentary Leukocytosis.—The crisé hémoclasique of Widal, as evidenced by the postalimentary leukocyte curve, Feinblatt asserts, does not occur in normal subjects. The hemoclastic crisis has been frequently observed in patients who showed no clinical evidence of hepatic disease. It appears to be established that this test can in no way be used to measure quantitatively gross organic damage to the liver. The Widal test should be considered as relating not to liver function, in general, but to one particular liver function, the proteopexic

function. The interpretation which should be placed on a positive crisé hémoclasique is that it indicates a functional defect of the liver, perhaps transitory, which gives rise to a nonspecific anaphylactic reaction.

Blood and Plasma Volume in Obesity.—Brown and Keith observed that the circulating blood and plasma volumes when compared to body weight are smaller in obese than in normal persons. Loss of weight in obese subjects did not result in constant changes in blood and plasma volume or in the percentage of hemoglobin or red blood corpuscles. In three cases, following loss of weight there was evidence of blood dilution, but no definite evidence of anemia. A decrease or increase of total circulating blood volume may occur with reduction in weight. In this series, when a marked decrease occurred, there was evidence of anemia.

Treatment of Mercuric Chlorid Poisoning.—The treatment employed by Weiss is divided into several stages. As soon as the patient comes under observation—the sooner the better—a stomach tube is introduced, and the stomach is washed with 2 quarts (liters) of a saturated solution of sodium bicarbonate. This is continued until the washings return clear. Before the tube is removed, 6 ounces (178 c.c.) of a saturated solution of magnesium sulphate is introduced and allowed to remain in the stomach. A soapsuds enema is then given. To introduce alkali into the system, patients should receive an intravenous injection as soon after the preliminary treatment as possible, and the preparation used by Weiss is Fischer's solution. If this is not available, a solution of 4 per cent. sodium bicarbonate may be used. In patients who have no abnormality of the circulatory system, from 1 to 1.5 liters can be tolerated without any difficulty. In patients who have taken large amounts of poison, as much as 1,800 c.c. has been given at the first injection. The alkaline therapy is continued by mouth. Weiss has used a modification of the old "potus imperialis" by dissolving 4 gm. (1 teaspoonful) of potassium bitartrate and 2 gm. (½ teaspoonful) of sodium citrate in a glass of water, orangeade or lemonade. The patient receives 8 ounces (236 c.c.) of this drink from six to eight times a day, from the onset. Hot packs have not been used except in the few patients who had a complete suppression. A liberal diet is allowed, including meat, after the diarrhea ceases. The treatment is controlled by urinalysis.

Infection, Diabetic Coma and Insulin.—Of six cases of diabetic coma reported by Frissell and Hajek, only one was uncomplicated by an infection. Infections whose course lasted for twenty-four hours were all influenced chemically by insulin, but the patients succumbed to the infection, with the exception of one having pneumonia, who made a perfect recovery, and is now sugar free. The patient with the uncomplicated case recovered. In three cases of this series diabetes followed an infectious jaundice; in one, measles, and in another a tooth infection.

Effect of Massive Doses of Digitalis.—Luten reports that tincture of digitalis, when given by mouth in large doses over a short time, affects favorably certain patients with normal heart rhythm. The favorable effects are: improvement in symptoms, diuresis, loss of edema and decrease in size of liver. The patients in whom these effects occur with most consistency belong to the class known as "myocardial insufficiency." The improvement from digitalis in these cases does not depend on change in ventricular rate, but is probably due to increased muscular efficiency. Patients with myocardial insufficiency improve under proper digitalis administration in about the same proportion as do patients with auricular fibrillation. The improvement in the former class of cases is usually, perhaps, of somewhat less extent, but it is frequently as impressive as the most striking results that occur in patients with fibrillation of the auricles. Certain manifestations of toxic action were observed with sufficient frequency to indicate that the method of rapid digitalization that was employed in this study is not without danger.

Arkansas Medical Society Journal, Little Rock

20: 139-160 (Feb.) 1924

Epidemiology and Reporting of Infectious Diseases in Arkansas. W. Holt.—p. 139.

Boston Medical and Surgical Journal

190: 273-350 (Feb. 21) 1924

Present-Day Training in Medicine. A. S. Begg, Boston.—p. 273.
*Nutrition Work as Basis for Health Education and Prevention of Tuberculosis. M. P. Horwood, Cambridge, Mass.—p. 277.
*Pathologic Study of Incidence of Surgical Mammary Lesions. W. H. Watters, Boston.—p. 280.
Diagnosis of Glaucoma. D. W. Wells, Boston.—p. 282.
*Stomatology in Medical School Curriculum? L. M. S. Miner, Boston.—p. 283.
Technic of Inguinal Herniotomy. C. T. Howard, Boston.—p. 284.
*Transuterine Insufflation of Gas in Sterility. S. R. Meaker, Boston.—p. 286.
Vital Function Studies. III. Tests for Disturbed Endocrine Function. A. W. Rowe, Boston.—p. 291.
*Active Immunization of Adults Against Diphtheria. S. B. Hooker, Boston.—p. 295.
*Wassermann Test as Criterion of Cure for Syphilis. D. L. Belding, Boston.—p. 301.
Factors, Actual and Possible, in Cardiac Nutrition. F. H. Pratt, Boston.—p. 304.
*Studies in Endocrinology. I. Hypothyroidism With and Without Myxedema. C. H. Lawrence, Boston.—p. 307.
*Effect of Acetylsalicylic Acid on Cardiac Irritability. W. L. Mendenhall and H. F. Camp, Boston.—p. 312.
Histopathologic Alterations in Cellular Neuroglia and Fibrillary Mesoblastic Components of Cerebral Cortical Interstitium. S. C. Fuller, Boston.—p. 314.

Nutrition Work as Basis for Health Education.—Horwood relates his experiences in nutrition work in Philadelphia during the summer of 1922. This work was used as a basis for inculcating in the minds of parents and children the principles of healthy living. He emphasizes the relationship between nutrition and the development of vital resistance against disease. Scientific nutrition is in its infancy, and much remains to be done to disseminate knowledge already gained among all classes of people. Here, Horwood says, is a potent force for building up the resistance of the organism against disease, and for the development of hygienic habits which are equally important for the promotion of health and the prevention of disease.

Tumors of Breast.—Watters analyzed 1,385 specimens of breast tumors; 653 were carcinoma without axillary involvement and 213 with axillary involvement. There were only four sarcomas, and two papillomas; twenty-eight adenomas and one melanoblastoma. Watters says that he now sees fewer cases of cancer of the breast each year than he did twenty or twenty-five years ago.

Stomatology.—Miner believes that with the opportunities offered for promoting public health by developing the science of stomatology, stomatology should be given a place in the medical curriculum.

Transuterine Insufflation of Gas in Sterility.—Meaker feels that insufflation is worthy of being tried repeatedly as a routine therapeutic measure in all cases in which every factor apart from the tubes has been excluded. Particularly favorable are cases in which gas can be forced through with some difficulty. It remains to be seen whether an unusually large proportion of ectopic pregnancies will follow this method of treatment. There is a further use for insufflation in the postoperative care of salpingostomies, to prevent fresh sealing over of the reconstructed tubal lumen.

Results of Active Immunization Against Diphtheria.—Clinical diphtheria among members of the group tested by Hooker, following the systematic application of the Schick test and toxin-antitoxin immunization of susceptibles, has been reduced more than 95 per cent.

Wassermann Reaction as Criterion of Cure in Syphilis.—In connection with negative clinical findings and thorough treatment, Belding regards a negative Wassermann reaction as of corroborative value in determining temporary cure. The negative reaction itself does not indicate the cessation of treatment, and a persistent positive may not always call for further treatment. The quantitative positive reaction is a valuable guide to drug therapy and an aid in diagnosis, but the Wassermann reaction of the blood serum is not a criterion of cure for syphilis and, in this respect, is inferior to a complete serological examination of the blood and spinal fluid.

Hypothyroidism Without Myxedema.—Twenty-five cases of hypothyroidism with clinical and laboratory findings are presented and discussed by Lawrence. The possible relation

of the abnormal nitrogen metabolism to arteriosclerosis and chronic nephritis is pointed out. The existence of a non-myxedemic type of hypothyroidism, possibly analogous to the Levi Lorraine type of pituitary insufficiency, is reported, with tabulated findings in nine cases.

Effect of Acetylsalicylic Acid on the Heart.—Mendenhall and Camp found that acetylsalicylic acid has a stimulant effect on the heart muscle which is indicated by a lowering of the threshold on electrical stimulation. The stimulating effect of acetylsalicylic acid is directly on the heart muscle, and is not due to paralysis or inhibition of the vagus mechanism. The drug is depressant to the heart muscle only in concentrations much higher than is likely to occur even in enormous doses of the drug.

Colorado Medicine, Denver

21: 53-82 (March) 1924

Significance of Rapid Loss of Vision. E. Jackson, Denver.—p. 55.
Present Status of Healing Art in Colorado. G. M. Blickensderfer, Denver.—p. 59.
State Health Program. G. B. Webb, Colorado Springs.—p. 62.
Doctor and His Family Abroad. W. M. Bane, Denver.—p. 65.
Bronchial Asthma. A. Minnig, Denver.—p. 67.
State-Wide Child Hygiene Campaign in Colorado. R. P. Forbes, Denver.—p. 73.

Endocrinology, Los Angeles

8: 1-188 (Jan.) 1924

*Osseous Development in Endocrine Disorders. W. Engelbach and A. McMahon, St. Louis.—p. 1.
*Clinical Interpretation of Dercum's Disease (Adiposis Dolorosa). C. P. Waldorp.—p. 54.
Experimental Investigations of Rôle of Leydig, Seminiferous and Sertoli Cells and Effects of Testicular Transplantation. M. Thorek, Chicago.—p. 61.
*Endocrine Organs. B. F. Kingsbury, Ithaca, N. Y.—p. 91.
Clinical Findings and Results in Treatment of Severe Case of Diabetes by Insulin. W. D. Sansum, Santa Barbara, Calif.—p. 103.
Case of Eunuchoidism with Response to Testicular Implantation. C. E. Nixon, San Francisco.—p. 106.
Pituitary Hibernation; Eunuchoidism with Hypothyroidism. W. Engelbach and A. McMahon, St. Louis.—p. 109.

Bone Development in Endocrine Disorders.—The general diagnostic information derived from the roentgenologic comparison of endocrinopathic and normal subjects has led Engelbach and McMahon to believe that radiologic signs offer encouraging prospects of being of more value than the basal metabolism, blood chemistry, and other so-called specific and laboratory determinations.

Adiposis Dolorosa Due to Diencephalic Disorders.—Waldorp attempts to show that adiposis dolorosa must be considered as being due to diencephalic disorders. There is obesity resembling in distribution the hypophysial type, as the result of perturbations in the trophic diencephalic centers, the picture resembling that of dystrophia adiposogenitalis. The pain in the fatty tissue is ascribed to lesions of the optic thalamus or to peripheral neuritis. It is probable that the thyroid and ovary later intervene in the production and maintenance of obesity. The muscular and cardiovascular asthenia can be attributed to disturbances of the suprarenals or the vegetative nervous system, central or peripheral. The psychic disorders can be attributed to toxic states of endocrine origin or to true encephalic lesions.

Endocrine Organs.—Kingsbury regards it a necessary or wise temporary limitation of the problem of endocrinology to accept as sufficient the apparent fact that the body is equipped with a system of important organs, more or less interrelated, through which the metabolic unity of the body is maintained.

Florida Medical Association Journal, St. Augustine and Jacksonville

10: 211-236 (Feb.)1924

Enteroliths; Report of Case. H. A. Peyton, Jacksonville.—p. 211.
Heredo-Familial Cerebellar Syndrome; Report of Case. H. M. Smith, Tampa.—p. 213.
Traumatic Retrodisplacement of Uterus. M. P. Rucker, Richmond, Va.—p. 215.
Glaucoma Simplex. W. H. Adams, Jacksonville.—p. 216.
Syringomyelia. R. N. Greene, Jacksonville.—p. 218.
Abuse of Maxillary Antrum. B. F. Hodson, Miami.—p. 221.
The Faker. L. S. Oppenheimer, Tampa.—p. 222.
Pain as Symptom. B. E. Smith, Deland.—p. 225.
Renal Malignancy in Infants. L. W. Holloway, Jacksonville.—p. 229.

Indiana State Medical Association Journal, Ft. Wayne

17: 43-66 (Feb.) 1924

Acute Hallucinosis Following Operations on Aged, Especially Prostatectomy. J. R. Eastman and J. E. Kilman, Indianapolis.—p. 43.
*Experimental Studies in Kidney Regeneration. E. Rupel, Indianapolis.—p. 44.
Acute Infectious Osteomyelitis. W. H. Stemm, North Vernon.—p. 47.
Quinin and Urea Hydrochlorid in Treatment of Fissure Ani. A. B. Graham, Indianapolis.—p. 50.

Studies in Kidney Regeneration.—Experiments made by Rupel showed that a kidney which by injury has suffered partial loss of function should not be removed, provided there is no complicating infection, stone, or obstruction, to hinder the activity of the vital part. A kidney which has irreparably lost its function, the small atrophied kidney excepted, should be removed. Obstruction to any part of the arterial supply of the kidney produces permanent loss of function in the portion affected. Blood supply to the kidney is entirely dependent on the renal artery, even though the capsule has been removed and the organ is covered with adhesions. A kidney torn from its bed will quickly become attached firmly. One half of one kidney will supply the body needs if the burden be gradually forced on it.

Journal of Infectious Diseases, Chicago

34: 105-208 (Feb.) 1924

*New Method of Staining Acid-Fast Bacteria and Spores. V. Burke and M. Dunning, Pullman, Wash.—p. 105.
*Study of Leptospira Icteroides in Guinea-Pigs Inoculated Experimentally. R. C. Wanstrom, Ann Arbor, Mich.—p. 110.
*Effect of Brief Animal Passage on Two Strains of Streptococcus. K. M. Howell, Chicago.—p. 117.
Action of Ammonia on Pneumococcus and Mechanism of Capsule Staining. W. B. Wherry, Cincinnati.—p. 124.
*Growth of Clostridium Botulinum in Fermented Vegetables. F. M. Bachmann, Madison, Wis.—p. 129.
Prevalence of Toxin-Producing Anaerobes in Wisconsin. F. M. Bachmann and E. Haynes, Madison, Wis.—p. 132.
Complement-Fixation Studies on Clostridium Botulinum. W. A. Starin and G. M. Dack, Chicago.—p. 137.
Pure Cultures of Clostridium Botulinum from Single Cells. W. A. Starin, Chicago.—p. 148.
*Rôle of Omentum of Rabbits, Dogs and Guinea-Pigs in Antibody Production. B. Portis, Chicago.—p. 159.
Conductivity of Yeast Cells. I. S. C. Johnson and R. G. Green, Minneapolis.—p. 186.
Theory of Electrical Conductance of Suspensions. F. H. MacDougall and R. G. Green, Minneapolis.—p. 192.
*Studies of Fusiform Bacilli and Spirochetes. VII. Relation to Pharyngomycosis. D. J. Davis and A. K. Hall, Chicago.—p. 203.

Acetone and Iodin-Acetone Decolorizer for Spores and Tubercle Bacilli.—Burke and Dunning use acetone and iodin acetone as the decolorizer in the differential staining of tubercle bacilli and of bacterial spores. This method of staining spores is said to make it possible to distinguish readily living spores from spores killed by heat.

Leptospira Icteroides.—According to Wanstrom's findings, *Leptospira icteroides* occurs in all tissues and especially wherever there are hemorrhagic areas. The organisms are found in greatest numbers in the liver, in large numbers in the kidney, to a less extent in the spleen and lung, while in other tissues they are more widely scattered. *Leptospira icteroides* stains as easily and as well as *Spirochaeta pallida* with the Warthin-Starry silver-agar stain.

Effect of Animal Passage on Streptococcus.—Two strains of streptococci have been under Howell's observation since 1914. *Streptococcus hemolyticus* isolated from the aortic valve of the heart did not produce variants of any stability after a brief sojourn in the peritoneum of a mouse. *Streptococcus viridans* isolated from the same heart valve split off no variants, nor did a freshly isolated virulent hemolytic streptococcus yield nonhemolytic descendants.

Culture of Clostridium Botulinum.—Bachmann found that *Clostridium botulinum* would grow and produce its toxin in fermenting green beans. The results with fermented cabbage were negative.

Rôle of Omentum in Antibody Production.—Experiments made by Portis show that the omentum of the rabbit takes part in the development of antibodies in response to intraperitoneal injection of antigen, but in the dog and guinea-pig the omentum seems far less active in this respect. The

clasmatocytes of the rabbit omentum appear to be a definite factor in antibody production following intraperitoneal injection of antigen.

Pharyngomycosis.—Pharyngomycosis is primarily a localized hyperkeratosis of the pharyngeal or tonsillar epithelium, the cause of which is not known. Davis and Hall assert that in the hyalinized epithelium mycotic masses of filaments (leptothrix), fusiform bacilli, spirochetes and cocci grow. The structure seems identical with tonsillar and dental actinomyces-like granules.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

22: 413-496 (Jan.) 1924

*Phyto-Pharmacologic Study of Menstrual Toxin. D. I. Macht and D. S. Lubin, Baltimore.—p. 413.
*Experimental Therapy of Amebic Dysentery. A. W. Sellards, Boston, and L. Leiva, Manila, P. I.—p. 467.
Relation Between Chemical Structure of Bile Acids and Their Phytopharmacologic and Zoopharmacologic Reactions. D. I. Macht and O. R. Hyndman, Baltimore.—p. 483.

Study of Menstrual Toxin.—Macht and Lubin assert that the blood serum, blood corpuscles, saliva, sweat, milk and other secretions of menstruating women contain a toxic substance characterized by specific pharmacologic and chemical reactions. The menotoxin while elaborated in varying quantities by different individuals can be demonstrated in almost every subject; and it occurs in the largest quantities in any one individual premenstrually or just before the onset, and during the first few days of menstruation. Chemically, menstrual toxin exhibits properties which point to its possible relationship to oxycholesterin. The experimental data obtained by the authors in the study of menotoxin confirm in a striking degree the empirical observations concerning a menstrual poison prevalent in folklore and handed down in classical literature.

Treatment of Amebic Dysentery.—Infections with *Endameba histolytica* in cats were treated successfully by Sellards and Leiva with emetin and quinin but not with papaverin. Emetin and papaverin posses certain chemical groupings in common; namely, the four methoxy radicals. Quinin has one methoxy radical; its general structure is unlike papaverin. Massive doses of quinin were employed in the treatment of cats; in contrast to emetin, repetitions of the effective dose were tolerated for many days.

Journal of Radiology, Omaha

5: 37-70 (Feb.) 1924

Misplaced, Unerupted and Impacted Teeth. W. L. Shearer and A. F. Tyler, Omaha.—p. 37.
Roentgen Ray as Aid in Diagnosis of Cardiac Lesions. I. P. Levi, Anniston, Ala.—p. 41.
Physiotherapy in Certain Orthopedic Conditions with Particular Reference to Usefulness of Actinic Ray. J. E. M. Thomson, Lincoln, Neb. —p. 46.
Roentgen Rays and Roentgen-Ray Apparatus: Elementary Course. J. K. Robertson, Kingston, Canada.—p. 49.
Cancer of Tongue Under Influence of Radium, Electrocoagulation and Roentgen Ray. C. W. Hanford, Chicago.—p. 55.

Medical Journal and Record, New York

119: 181-228 (Feb. 20) 1924

*Importance of Knowledge of Reflexes in Diagnosis of Pulmonary Tuberculosis. F. M. Pottenger, Monrovia, Calif.—p. 181.
*Airplane Tests of Hay-Fever Pollen Density in Upper Air. W. Scheppegrell, New Orleans.—p. 185.
Surgical Aspect of Abscess of Lung. W. Meyer, New York.—p. 189.
Lung Abscess. L. B. Mackenzie, New York.—p. 191.
Urobilinuria. E. M. Watson, Sheffield, England.—p. 194.
Malignant Neoplasms: Colloidal and Electrical Phenomena Observed and Their Experimental and Clinical Aspects. D. C. A. Butts, Philadelphia.—p. 196.
Granuloma Inguinale. H. L. Horwitz, Chicago.—p. 199.
*Calcium Inhalations in Treatment of Pulmonary Tuberculosis. F. Tweddel, Great Neck, N. Y.—p. 201.
Treatment of Skin and Surgical Tuberculosis by Roentgen Rays and Quartz Mercury Lamp. S. Feldman, New York.—p. 203.
Psychohistoric Study of the Sex Balance in Greek Art. L. P. Clark and H. R. Cross, New York.—p. 205.
Contributors to Science of Medicine. C. McBurney.—p. 208.

GASTRO-ENTEROLOGY SUPPLEMENT

Treatment of Gastro-Enteroptosis and Futility of Surgical Intervention. C. D. Aaron, Detroit.—p. XVII.
Gastric Ulcer. R. T. Morris, New York.—p. XIX.
Present Status of Knowledge of Transition of Gastric and Duodenal Ulcer Into Cancer. C. R. Jones, Pittsburgh.—p. XXI.
Case of Megacolon. M. S. Shaine, New York.—p. XXIV.
Investigations and Management of Cases of Suspected Gastric Carcinoma. W. V. V. Hayes, New York.—p. XXV.
Foreign Bodies in Stomach. L. Tuft, Philadelphia.—p. XXX.

Reflexes in Pulmonary Tuberculosis.—Pottenger discusses the innervation of the lungs, the principles of reflex action, some common reflexes in disease, sensory and trophic phenomena of diagnostic value, sensory reflex from the lung, sensory reflex from the pleura and trophic reflexes from the lung. He says, after one has once grasped the neurology which underlies these changes and attained skill at detecting them, he has at a glance very important suggestions as to the presence or absence of past or present chronic inflammation in the lung. The trophic reflexes combined with the motor reflexes of the lung present accurate signs of the past and present history of disease in the organ.

Aeroplane Tests of Hay-Fever Pollen Density.—Scheppegrell has found that aeroplanes furnish a practical method of testing hay-fever pollen density in the air. During the pollinating season of grasses, ragweeds and other common hay-fever plants, their pollen is found in large numbers in the air up to an altitude of 4,000 feet, and in diminished numbers at from 4,000 to 6,000 feet. From this altitude to 15,000 feet the pollens are present but are relatively few in number. Unless precipitated by rain or descending air currents, pollen clouds remain in the air during the whole pollinating season of the plants which generate them, the fallen pollen being replaced by new pollen. The existence of these pollen clouds and their change of position due to descending air currents, Scheppegrell believes, explain the increase of hay-fever pollen during the prevalence of cold winds and after sunset. The large potential area of hay-fever pollen, resulting from the clouds of pollen in the upper air, demonstrates the necessity of state and federal laws in the effective control of hay-fever in communities.

Calcium Inhalation Prevents Tuberculosis.—Tweddel asserts that workers in lime or gypsum are immune to tuberculosis, because they inhale these substances.

Mental Hygiene, Albany

8: 1-224 (Jan.) 1924

State Legislation Providing for Mental Examination of Persons Accused of Crime. S. S. Glueck, New York.—p. 1.
Development Battalion. E. R. Wembridge, Cleveland.—p. 20.
Problem Child. P. Blanchard and R. H. Paynter, Jr.—p. 26.
Growth of Psychotherapy and Evolution of Psycho-Analysis. A. Polon, New York.—p. 55.
13.77 Versus 12.05. Study in Probable Error. "American Intelligence." M. B. Hexter and A. Myerson, Boston.—p. 69.
Mental Health Survey. C. D. Hopkins.—p. 83.
History, Purpose and Policy of National Research Council's Committee for Research on Sex Problems. E. F. Zinn.—p. 94.
Children in Mental Hygiene Clinic of St. Elizabeth's Hospital. W. Richmond, Washington, D. C.—p. 106.
Problem of Quasi-Delinquent in School. D. Wallace.—p. 115.

New York State Journal of Medicine, New York

24: 147-184 (Feb. 15) 1924

Leukemia. T. Ordway, Albany.—p. 147.
Treatment of Anemia by Transfusion. W. W. G. Maclachlan, Pittsburgh.—p. 154.
Obligations of Medical Profession. E. H. Pool, New York.—p. 159.
Persistent Puerperal Mortality. R. Dickinson, New York.—p. 161.
Chiropractic Education. L. J. Bragman, Kings Park.—p. 162.

24: 185-236 (Feb. 22) 1924

New Methods of Preventing Postoperative Intra-Ocular Infections G. H. Bell, New York.—p. 185.
Therapeutic Uses of Electricity, Roentgen Ray, Ultraviolet Ray and Radium Methods and Results. S. Tousey, New York.—p. 191.
Studies of Deaf Child. G. B. McAuliffe, New York.—p. 197.
*Grippe Epidemic Among Children. M. G. Levy, Buffalo.—p. 200.
Hyperthyroidism. W. H. Hay, Buffalo.—p. 202.
Treatment of Sacrococcygeal Sinus. M. R. Bookman, New York.—p. 204.

Grip Epidemic in Children.—The striking features of the epidemic studied by Levy were the abrupt onset, the laryngitis and the tracheitis, the relative leukopenia and the lack of complications involving the middle ear, the lung, the kidney and the heart.

Oklahoma State Medical Association Journal, Muskogee

17: 1-29 (Jan.) 1924

Neuroses and Internal Secretions. M. Q. Howard, Oklahoma City.—p. 1.
Parkinsonian Syndrome Following Encephalitis. A. D. Young, Oklahoma City.—p. 5.
Syphilis of Alimentary Tract. D. D. Paulus, Oklahoma City.—p. 7.
Inflammation of Fifth Metatarsal. C. D. Blachly, Drumright.—p. 11.
Screw Worms in Nose. J. C. Macdonald, Oklahoma City.—p. 15.
Hysteric Blindness. J. C. Macdonald, Oklahoma City.—p. 16.

Philippine Journal of Science, Manila

23: 533-690 (Dec.) 1923

*Chemotherapeutic Experiments with Chaulmoogra and Allied Preparations. O. Schöbl.—p. 533.
*Comparative Analytical Study of Various Oils in Chaulmoogra Group. G. A. Perkins and A. O. Cruz.—p. 543.
New Philippine Bikkia. Valeton, Leiden, Holland.—p. 573.
*Treatment of Leprosy with Antimony. J. Rodriguez and F. Eubanas.—p. 575.
Eleventh Contribution to Coleoptera Fauna of Philippines. W. Schultze, Manila.—p. 595.
Monograph of Pachyrrhynchid Group of Brachyderinae, Curculionidae: Part I. W. Schultze, Manila.—p. 609.

Therapeutic Experiments with Chaulmoogra. — Schöbl asserts that chaulmoogra oil and its derivatives exert a pronounced growth-inhibiting action on *Bacillus tuberculosis* in vitro. This inhibition is specific; that is to say, it is noticeable in dilutions of the oil in which no inhibition of non-acid-fast bacilli can be discerned. Oils obtained from plants related to *Taraktogenos kurzii* have a property similar to that of chaulmoogra oil with regard to *B. tuberculosis, Hydnocarpus wightiana, H. alcalae, H. subfalcata* and *H. venenata*, all containing the optically active acids, show antiseptic power in vitro, the strength of the various oils decreasing in the order mentioned. Oil derived from *Gynocardia odorata*, a plant systematically closely related to *Taraktogenos kurzii*, proved to be inactive. It lacks the optically active fatty acids. The growth-inhibiting strength of the sodium salts of chaulmoogra oil acids appears to vary, inasmuch as the soap made from the total fatty acids inhibits the growth of *B. tuberculosis* to a higher degree than does that made of a fraction of the acids. A sodium salt prepared from isolated hydnocarpic acid approaches closely in strength the soap of total fatty acids, while the sodium salt of chaulmoogric acid is far below the soap of hydnocarpic acids as far as the growth-inhibiting effect is concerned.

Study of Oils in Chaulmoogra Group.—Authenticated seeds of ten species related to chaulmoogra and fifteen samples of commercial oils were studed by Perkins and Cruz for the purposes of (*a*) establishing criteria for the recognition of each oil and for the detection of adulteration; (*b*) sufficiently separating each oil into its components to enable its evaluation as a potential source of hydnocarpic acid, chaulmoogric acid, or other therapeutically valuable constituents; (*c*) determining economically important data. Previous results placing *Gynocardia odorata* outside of the chaulmoogra group have been confirmed. *Pangium edule* appears to contain no chaulmoogric or hydnocarpic acid. *Hydnocarpus alcalae* was found, in confirmation of Brill's results, to contain a large amount of chaulmoogric and little or no hydnocarpic acid. The remaining hydnocarpus oils studied were found very similar to chaulmoogra in chemical composition.

Antimony in Leprosy.—Antimony in the form of tartar emetic, vinum antimonii, and Castellani's yaws formula, as Rodriguez and Eubanas have employed it, appears to be of no real therapeutic value in treating leprosy. Tartar emetic appears to improve some of the ulcerations so commonly found, but because of its irritating properties and the fact that it promotes wasting, the use of this drug instead of the more efficient and less harmful drugs available is not justifiable. The authors suggest that these preparations should be used cautiously in lepers, especially those in the more advanced stages of the disease. Intravenous medication has, in their experience, proved injurious to the kidneys, which in the majority of these cases showed considerable damage. The Castellani formula tends to excite lepra reaction and is irritating to the stomach.

Public Health Journal, Toronto

15: 49-96 (Feb.) 1924

*Morbidity in Diphtheria. C. I. Mahood, Calgary.—p. 49.
Mental Hygiene Activities in Public Schools. D. J. Dunn, Edmonton.—p. 55.
Uses of Intelligence Tests in Schools. C. Willis, Edmonton.—p. 68.
Social Aspects of Venereal Disease Control. F. E. Brown, Toronto.—p. 72.
Sanitary Inspectors' Association of Canada. E. W. J. Haugue, Winnipeg.—p. 83.

Intravenous Injection of Diphtheria Antitoxin.—Mahood urges the intravenous route for the injection of diphtheria antitoxin because results are more rapidly obtained and more certain and a smaller amount is required. He recommends that this procedure be given more prominence, especially in cases seen late in the disease.

South Carolina Medical Association Journal, Greenville

20: 31-60 (Feb.) 1924

Granuloma Inguinale. G. E. Thompson, Inman.—p. 33.
Educating Public to Defeat Tuberculosis. Problem for Medical Profession. E. P. Knotts, Newberry.—p. 35.
Present Status of Gastro-Enterostomy. Case Reports. C. B. Epps, Sumter.—p. 37.
New Bandage Method in Treatment of Fractured Clavicle. A. M. Bidwell, U. S. Army.—p. 41.
Tropical Diseases in Relation to the South. F. B. Johnson, Charleston.—p. 42.
Intubation in Laryngeal Diphtheria and Antitoxin. L. O. Mauldin, Greenville.—p. 45.
Multiple Sensitization in Asthma and Hay-Fever. H. M. Davison, Atlanta, Ga.—p. 46.

Texas State Journal of Medicine, Fort Worth

19: 471-534 (Jan.) 1924

Interpretation of Laboratory Findings in Diagnosis and Treatment of Syphilis. N. Andronis, Galveston.—p. 480.
Routine Blood Wassermann Reaction in Private Practice. A. E. Greer, Houston.—p. 485.
Standardized Wassermann Reaction. T. C. Terrell, Fort Worth.—p. 490.
*Syphilitic Meningitis. J. S. Turner, Dallas.—p. 491.
Syphilis and Tuberculosis in the Negro Race. R. L. Keller, Dallas.—p. 495.
Syphilis in Pregnancy. R. A. Johnston, Houston.—p. 498.
Diagnosis and Treatment of Acute Gonorrhea in the Male. M. F. Lautman, Hot Springs.—p. 500.
Purpura Hemorrhagica. G. Milliken and H. C. Hartman, Galveston.—p. 504.
Stricture of the Rectum. C. Rosser, Dallas.—p. 508.
Relation of Public Health to Juvenile Delinquency. C. W. Smith, Gainesville.—p. 512.
Church and School as Educational Factors for Preventive Medicine. J. W. Torbett, Marlin.—p. 516.
Hygiene and Preventive Medicine in Public Schools. T. O. Woolley, Houston.—p. 517.

Syphilitic Meningitis.—Some interesting features of Turner's case were the severe character of the initial symptoms, both mentally and physically; the markedly syphilitic character of the symptoms, with a negative blood Wassermann; pressure of the cerebrospinal fluid on repeated tests, with the Wassermann only mildly positive; the intense reaction to arsphenamin; the rapid and marked improvement following the administration of arsphenamin; the early and complete clearing of the mental symptoms, and the great improvement in physical condition in a short space of time.

U. S. Naval Medical Bulletin, Washington, D. C.

20: 149-284 (Feb.) 1924

Detection of Psychopath and Classification of Naval Recruits in Accordance with Their Intelligence. A. W. Stearns.—p. 149.
Insulin Treatment of Diabetes Mellitus. W. D. Owen.—p. 170.
Novocain Anesthesia. G. F. Cottle.—p. 184.
Yaws in Haiti. P. W. Wilson.—p. 190.
Relation of Clinical Laboratory to Modern Hospital. H. S. Sumerlin.—p. 196.
Gas Mask for Head and Chest Injury Cases. F. F. Lane.—p. 200.
Improved Technic in Spinal Puncture. T. W. Raison.—p. 205.
Traumatic Hematoma of Spermatic Cord. L. H. Williams.—p. 206.
Cystoscopy. Report of Three Cases. L. B. Marshall.—p. 207.

Wisconsin Medical Journal, Milwaukee

22: 409-452 (Feb.) 1924

Shoulder and Hip Fractures. F. J. Cotton, Boston.—p. 409.
Prevention and Cure of Goiter. A. S. Jackson, Madison.—p. 412.
Diagnosis of Pulmonary Tuberculosis. C. E. Ide, Milwaukee.—p. 419.
Dangers Associated with Surgery of Thyroid. J. deJ. Pemberton, Rochester, Minn.—p. 420.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

36: 47-92 (Feb.) 1924

Results of Treatment of Syphilis of Nervous System. J. A. Fordyce, New York.—p. 47.
Mustard Gas Poisoning. J. E. R. McDonagh.—p. 64.
Alopecia Areata and Syphilis. H. Orr.—p. 71.

British Journal of Experimental Pathology, London

5: 1-46 (Feb.) 1924

*Experiments on Immunity to Tumor Growth. H. Chambers and G. Scott.—p. 1.
Colorimetric Determination of p_H in Pathologic Plasma by Cullen's Method. J. Marrack and F. C. Smith.—p. 13.
*Variations in Number of Blood-Plates Associated with Common Cold. R. G. Bannerman.—p. 16.
*Reputed Chemical Stimulation of Antibody Production. J. McIntosh and A. N. Kingsbury.—p. 18.
Source and Characteristics of Certain Cultures Sensitive to Bacteriophage. J. A. Arkwright.—p. 23.
*Liver and Other Tissues in Relation to Aquired Immunity Toward Jensen's Rat Sarcoma. W. S. Lazarus-Barlow and R. H. Parry.—p. 34.
*Reproduction of Bacteriophage When Sensitive Organism Is Grown in a Synthetic Medium. E. H. Lepper.—p. 40.

Immunity to Tumor Growth.—Evidence is given by Chambers and Scott which is confirmatory of the hypothesis that the antigen causing tumor immunity, in the case of Jensen's rat sarcoma, is a soluble product of the dead tumor cell formed by the action of enzymes. The difficulties of detecting and isolating this antigen are increased because the breaking down of the cell liberates a substance which stimulates tumor growth. This substance appears in the early stages of autolysis and, as far as known, is resistant to enzymes, and is slowly eliminated when absorbed. Apparently a stimulant to cell growth is given off from the nuclear structures of cells during division and during autolysis. According to Hopkins this stimulant can act in very dilute solutions, and is a growth-promoting catalyst rather than a building material. Its presence, even in minute quantities, may frustrate attempts to detect an antigen. In spite of many negative results, Chambers and Scott have repeatedly obtained signs of the presence of the antigen in solution, but have not succeeded in finding evidence of it in any experiment in which the tumor cells have been mechanically disintegrated. Whether under these circumstances the antigen fails to be formed, or is destroyed by enzyme action or is only masked by the presence of the growth catalyst is at present unknown.

Blood Platelet Variation in "Colds."—Bannerman's observations confirm the theory that the blood plates are concerned in the resistance to bacterial infection. The average plate count of Bannerman's patient in his normal condition lay in the region of 340,000 per cubic millimeter, but, the number fell during a "cold" to about 240,000 per cubic millimeter until the terminal stages of the "cold," when a rise above the normal average occurred and was then followed by a resumption of the normal level.

Chemical Stimulation of Antibody Production.—No experimental evidence was obtained by McIntosh and Kingsbury to prove that any significant increase in the antibody content of the serum of immunized animals can be produced by the injection of simple chemical substances.

Degree of Acquired Immunity to Tumor.—Lazarus-Barlow and Parry conclude in the case of Jensen's rat sarcoma and the normal rat that (1) the degree of immunity acquired after inoculation of tumor graft, whether fresh or altered by repeated freezing and thawing, differs according to the route of immunization, being greatest with the intrasplenic and least with the subcutaneous route. Intracerebral and intrahepatic immunization occupy an intermediate position. (2) When heavily irradiated tumor is used as the immunizing agent, the intrahepatic route is the most effective of the four considered. (3) Variations in the degree of local resistance to growth of an implanted immunizing graft are to be associated with variations in the degree of acquired immunity, and probably play a fundamental part in its production.

Reproduction of Bacteriophage.—Lepper found that a bacteriophage can be reproduced and transmitted in series by incubation with a sensitive organism growing in a synthetic medium. The bacteriophage thus obtained is much less active than the sample from which it has been derived. It produces transient clearing of peptone-water cultures, and appears to be without effect so far as one can judge from appearances on the agar subcultures made from these. This modified lysin is not restored to its original strength by five passages in peptone cultures. Peptone is not essential for the reproduction of the bacteriophage, but even in small amounts (0.04 per cent.), has a marked effect on the titer of the lysin produced. The increased bacterial growth caused by the addition of peptone to the synthetic medium does not appear to be sufficient to explain the much more marked effect which such addition has on the reproduction of bacteriophage. The experiments recorded support Maitland's view that some accessory substance is necessary for the complete reproduction of bacteriophage.

British Medical Journal, London

1: 261-306 (Feb. 16) 1924

Use of Insulin in Private and Panel Practice. E. P. Poulton.—p. 261.
*Early Mechanical Treatment of Acute Anterior Poliomyelitis. H. Platt.—p. 266.
*Colloidal Benzoin Reaction in Cerebrospinal Fluid. J. A. B. Hicks and J. Pearce.—p. 268.
Efficient Intestinal Antiseptic: Perchlorid of Mercury and Iron in Combination. T. S. Wilson.—p. 270.
*Pernicious Anemia. A. Piney.—p. 271.
*Contracted Pelvis. G. Fitzgibbon.—p. 272.
"Vesicalization" of Stump of Cervix Uteri. E. O. Ashe.—p. 275.
Manometric Method for Estimation of Urea. F. C. S. Bradbury.—p. 275.
Cesarean Section; Suppuration; Recovery. L. L. Steele.—p. 276.

Mechanical Treatment of Acute Anterior Poliomyelitis.—The treatment outlined by Platt consists of complete rest; the prevention of deformities by the adoption, from the moment immobilization is effected, of certain standardized positions of the limbs—positions which are known to be antagonistic to the occurrence of the common contractures, and relaxation of the paralyzed muscles.

Colloidal Benzoin Reaction.—The colloidal benzoin reaction is considered by Hicks and Pearce to be a simple test very nearly as sensitive to syphilis of the central nervous system as the Wassermann reaction. The authors do not believe that there is a characteristic "syphilitic" curve as contrasted with a "paretic" curve. True, some cases of tabes show less tendency to precipitate in tubes 9, 10 and 11, but so do some cases of undoubted general paralysis of the insane. A positive result (that is, precipitates in tubes 1 to 6, at least) is not obtained with any disease other than syphilis of the central nervous system so far as they have been able to ascertain. Definite changes (other than a complete positive, and in the absence of blood) indicate apparently some definite pathologic change in the cerebrospinal fluid; but all pathologic fluids do not necessarily show a colloidal benzoin reaction.

Differential Point in Pernicious Anemia.—A point of difference between pernicious anemia and all other anemias mentioned by Piney, is that the occurrence of another severe disease during the course of pernicious anemia partly or completely obliterates the typical blood picture. The secondary anemias are intensified by intercurrent disease.

Contracted Pelvis.—Fitzgibbon gives data on 184 cases of contracted pelvis. Of 110 cases in which normal delivery was affected, only three babies died; of twelve low forceps cases, two babies died; of fifteen cesarean sections, two babies died; of eight cases of premature birth, five babies died. There were nineteen fetal deaths in the whole series.

China Medical Journal, Shanghai

38: 1-84 (Jan.) 1924

Epidemic Encephalitis. A. H. Woods.—p. 1.
Glaucoma; Elliot's Trephine Operation and Law's New Operation. G. M. Harston.—p. 12.
*Chemical Study of Ethyl Esters of Chaulmoogra and Hydnocarpus Oils. B. E. Read.—p. 25.
*Globulin Precipitation Test in Kala-Azar. R. E. P. Sia.—p. 35.
Pituitary Extract in Treatment of Asphyxia Pallida Neonatorum. J. G. Cormack.—p. 42.

Comparative Value of Ethyl Esters of Chaulmoogra and Hydnocarpus Oils.—The chemical properties of the mixed ethyl esters of the oil from the Chinese leprosy seed were shown by Read to be superior to those of the ethyl esters of chaulmoogra oil. Read suggests the use by lepers of a toilet soap made from the oil of *Hydnocarpus anthelmintica*.

Globulin Precipitation Test in Kala Azar.—The principle on which the quantitative reading of the test reported by Sia is based depends on the fact that the degree of turbidity which develops on adding distilled water to the blood of a kala-azar patient is directly proportional to the amount of precipitable globulin present in the serum; furthermore, that the rate of sedimentation of the precipitate is also directly proportional to the amount of precipitate formed.

Glasgow Medical Journal

10: 53-108 (Feb.) 1924

*Clinical Varieties of Nephritis. T. K. Monro.—p. 53.
Pathology of Nephritis. J. S. Dunn.—p. 64.
*Renal Efficiency Tests in Nephritis in Children. E. Crawford.—p. 72.
*Clinical Application of Certain Biochemical Methods of Examination in Renal Disease. J. N. Cruickshank.—p. 80.

Clinical Varieties of Nephritis.—Two points are stressed by Monro. One is that a good many cases which come under observation under the guise of acute, or at least subacute, nephritis, turn out to be exacerbations of an underlying chronic disease. The other is that of those patients who appear to recover, a certain proportion will come under notice later on, in the terminal stage of chronic nephritis. They may have more than one acute attack before they reach this stage, and during several or many intervening years they may have regarded themselves as perfectly healthy persons.

Value of Renal Efficiency Tests in Nephritis.—The conclusions Crawford has come to regarding these tests are: (1) that at the onset of the disease they do not give any more definite evidence of the severity of the case than do the clinical symptoms; (2) they do not give any indication as to the ultimate result; (3) during the course of the disease they merely corroborate the clinical symptoms; (4) they do not help in deciding if the case is cured; and (5) they are not of any help in differentiating between acute, subacute and chronic nephritis.

Diagnostic Value of Blood Picture.—Cruickshank insists that in interpreting the findings in any given case the blood picture as a whole must be considered, in conjunction with such extraneous circumstances as diet, muscular exertion, pregnancy, and so forth. The estimation of a single substance in the blood, without reference to its relation to other constituents, is apt to be misleading.

International Journal of Psycho-Analysis, London

4: 270-399 (July) 1923

Perversion and Neurosis. O. Rank.—p. 270.
Nature of Auto-Suggestion. E. Jones.—p. 293.
Spider as Dream Symbol. K. Abraham.—p. 313.
Physics in Dream Symbolism. S. Feldmann.—p. 318.
Literary Portrayal of Ambivalency. C. Odier.—p. 321.
Smoking. G. H. Green.—p. 323.
Modern Prometheus. R. C. McWatters.—p. 326.

Japan Medical World, Tokyo

4: 1-22 (Jan. 15) 1924

Original Home of Plague. W. Lien-Teh.—p. 1.
Catalase in Cerebrospinal Fluid. S. Watanabe.—p. 8.

Lancet, London

1: 319-372 (Feb. 16) 1924

*Testicular Grafts. K. M. Walker.—p. 319.
Rôle of Mucous Membrane in Diseases of Nose, Throat and Ear. W. Stuart-Low.—p. 326.
*Method for Preparation of Insulin by Aqueous Extraction. E. C. Dodds and F. Dickens.—p. 330.
Use of Roentgen Rays in Antenatal Work. E. W. H. Shenton and C. H. S. Horwitz.—p. 332.
Two Cases of Hemoperitoneum Due to Rupture of Blood Vessels in Gastrosplenic Omentum. R. Maingot.—p. 333.
Case of Small Subperiosteal Fibroma of Tibia. J. A. C. Macewen.—p. 333.

Testicular Grafting.—To remedy testicular deficiency, Walker has implanted into the tunica vaginalis fragments of an ectopic testis by the use of grafts. Most of the material used by him was obtained from young donors between the ages of 10 and 22, in whom the secondary sex characters were well developed. Previous to operation a Wassermann test was performed, and a careful examination carried out in order to exclude tuberculosis, malaria, or any other constitutional disease. Study of the metabolism in a number of cases showed a marked increase in oxygen consumption per square meter of surface after the operation, and improved capacity for work. Walker stresses the fact that while the results obtained from the treatment of testicular deficiency by means of grafts are distinctly promising, there are limitations to the use of the method apart from the difficulty of obtaining material. In very few of the cases that present themselves for treatment with signs of testicular deficiency is the deficiency entirely confined to the testicle. As to permanency of results, he believes that a heterograft, however complete its vascularization may be, undergoes from the very beginning a process of absorption. This does not necessarily mean that at the end of that time the patient will relapse into the state in which he was previous to operation. The probability that grafts will become absorbed is not a valid argument against their use. It may, for instance, be possible by means of a transplant to assist a boy showing signs of eunuchoidism through the period of puberty, even although later the grafts may disappear.

Preparing Insulin by Aqueous Extraction.—The method devised by Dodds and Dickens consists of extracting the pancreas with aqueous chilled formic acid, and precipitating all the proteins from the fluid residue by the addition of saturated aqueous picric acid. The precipitate is filtered off and the moist picrates are extracted with acetone, thus dissolving out the insulin picrate. The acetone solution is filtered off, and the contained picrate precipitated by dilution with water and picric acid. This crude insulin picrate is filtered off and dissolved in acid alcohol after the method of Dudley, and, on dilution with acetone, the hydrochlorid separates.

Medical Journal of Australia, Sydney

1: 77-102 (Jan. 26) 1924

*New Operative Treatment of Spastic Paralysis. N. D. Royle.—p. 77.
Postural Influence of Sympathetic Innervation of Voluntary Muscle. J. I. Hunter.—p. 86.

1: 103-128 (Feb. 2) 1924

Principles of Immunity in Tuberculosis and Their Value in Diagnosis and Treatment. W. C. Wilkinson.—p. 103.
Celiac Disease. W. S. Laurie.—p. 109.
Schick Test at Thursday Island. A. J. Metcalfe.—p. 111.

Operative Treatment of Spastic Paralysis.—Experiments were made by Royle to determine the function of the sympathetic fibers going to voluntary muscles, and whether that function had any relationship to the abnormal muscular condition seen in spastic paralysis. He found that removal of the left abdominal sympathetic trunk did not interfere with the animal's ability to control the left lower limb, but the animal when placed on its back was not able to maintain the limb in an extended position and the amplitude of the tendon jerks was diminished. The hypertonicity and the flexion following transverse section of the cord were profoundly altered. In contrast to the right lower limb the left limb fell into extension and abduction under the influence of mechanical factors, while the knee and ankle jerks were less active. On the basis of his findings Royle considered it justifiable to test the therapeutic value of the observation and to endeavor to find some relief for the rigidity accompanying spastic paralysis in the human subject. A willing patient submitted to operation. The white ramus from the second lumbar nerve was divided and the grey rami going to the second, third and fourth lumbar nerves were avulsed. The sympathetic trunk was divided immediately below the fourth lumbar ganglion. By this means the grey rami communicantes to the fifth lumbar nerve and to the sacral nerves were divided. Fifty-four days after operation the patient had improved to such an extent that he relaxed the formerly spastic limb almost in a normal manner when walking. The knee jerks were practically equal on both sides. The ankle clonus was still present in a definite form on the left side, but was not present on the right side nor was there any sign of abnormal tone in the muscles of the right lower limb. A second patient who had

had spastic hemiplegia on the right side for fourteen years was also operated on. The upper limb was useless. The grey rami to the whole brachial plexus were avulsed. Since the operation (two weeks) there has been a remarkable gain in voluntary control in this useless hand and there appears no reason why improvement should not continue when the structural deformities become lessened. The name given to this operation is sympathetic ramisectomy.

Calcutta Medical Journal

18: 519-558 (Dec.) 1923

Epidemic Dropsy. B. B. Brahmachary.—p. 519.
Aldehyde Test. S. L. Sarkar and A. B. De.—p. 539.
Fibromyxoma and Fibroma of Right Vocal Cord. J. K. Datta.—p. 544.

Annales de Médecine, Paris

15: 1-96 (Jan.) 1924

*Roentgen Study of Pneumonia. G. Paisseau and Iser-Solomon.—p. 1.
The Blood in Epilepsy. E. J. Bigwood.—p. 24. Cont'd.
Chronic Glanders. A. Reverdin and A. Grumbach.—p. 42.
Holt's Phenomenon. W. M. Kraus.—p. 67.
*The Cervical Spinal Cord. V. Christiansen.—p. 73.

Roentgen Study of Pneumonia.—Paisseau and Iser-Solomon conclude from their observations that very frequently the roentgenogram does not allow a diagnosis without considering the clinical signs. It is useful for detecting a complicating pleurisy or an abscess. They confirm Weill's and Mouriquand's observations on the bad prognostic significance of an early appearing and widely and rapidly spreading shadow.

The Cervical Spinal Cord.—Christiansen deals with affections of the cervical spinal cord and its roots. Careful examination of a supposedly peripheral neuritis may reveal one of the four typical radicular syndromes, and thus allow an early operation. Arthritis of the cervical vertebrae may produce symptoms similar to those of tumors. It is, however, usually unilateral, does not compress the cord, is favorably influenced by extension of the patient, and causes no changes in the cerebrospinal fluid.

Comptes Rendus de la Société de Biologie, Paris

90: 163-260 (Feb. 1) 1924. Partial Index

Inclusions in Cells in Urethritis. J. Martin and M. Romieu.—p. 166.
Blood Viscosity and the Temperature. P. Lecomte du Noüy.—p. 168.
Blood Serum Index of Growth. A. Carrel and A.-H. Ebeling.—p. 170.
Serum Influence on Fibroblasts in Old Age. Idem.—p. 172.
Cardiography and Adhesive Pericarditis. Pachon and Fabre.—p. 175.
Immunity to Foot and Mouth Disease. H. Vallée and H. Carré.—p. 177.
Hyperglycemia in Paroxysmal Hemoglobinuria. C. Medyński and H. Simonnet.—p. 179.
An Embryo with Harelip. E. Cadenat.—p. 181.
Serologic Kinship Between Herpes Zoster and Chickenpox. A. Netter and A. Urbain.—p. 189.
Uterus After Partial Castration. A. Lipschütz.—p. 197.
Ovarian Hypertrophy. A. Lipschütz and H.-E.-V. Voss.—p. 199.
*Trophic Innervation of the Testicles. Idem.—p. 201.
Terminal Renal Arteries. P. Huard and M. Montagné.—p. 203.
Restoration of Root of Mesocolon. V. Villemin.—p. 205.
Rectal Temperature After Cutting Splanchnic Nerves. C. Petiteau and E. Soulé.—p. 208.
*Insulin in Medicine and Surgery. P. Mauriac and Aubertin.—p. 213.
Blood Urea After Bloodletting. C. Dubois and M. Polonovski.—p. 217.
Protein Shock After Vagotomy. F. Arloing and A. Dufourt.—p. 219.
Colloidal Sulphur in Experimental Anaphylaxis. Arloing et al.—p. 221.
Variations of Viscosity and Refraction with Temperature. Chalier and Chevallier.—p. 224.
"Lipophagic" Cells in Mammary Cystadenoma. S. Doubrow.—p. 225.
*Experiments on Glycorrhachia. Fontanel and Leulier.—p. 227.
*Caffein Glycosuria. C. Gautier.—p. 229.
*Sex Influence on Avitaminosis. G. Mouriquand and P. Michel.—p. 231.
Elastic Fibers in Tuberculous Sputum. S. Bonnamour et al—p. 232.
Influence of Electrolytes on Bacteriophage. J. da Costa Cruz.—p. 236.
Preparing Petruschky's Whey. A. de Godoy and G. Pacheco.—p. 243.
Diuresis of Decerebrate Dogs. J.-R. Beltran and O.-M. Pico.—p. 245.
Infectious Sarcoma in Fowls. Llambias and Brachetto-Brian.—p. 247.
*Insulin in Thyroidectomized Rabbits. L. Duchenau.—p. 248.
*Interference with Insulin. M.-A. Magenta and A. Biasotti.—p. 249.
Insulin with Phlorizin. A. Sordelli et al.—p. 251.
*Action of Insulin on Milk. L. Giusti and C.-T. Rietti.—p. 252.
Preparation of Insulin. A. Sordelli.—p. 254.
Paneth Granules in Intestine Cells. A. Kostitch.—p. 259.

Trophic Innervation of the Testicles.—Experiments on cats made by Lipschütz and Voss seem to prove that the trophic innervation of the testicles depends on the last lumbar and the sacral ganglions.

Use of Insulin in Experimental Medicine and Surgery.—Mauriac and Aubertin found that abdominal wounds of pancreatectomized dogs suppurated and failed to heal. But insulin administered after pancreatectomy induced healing by first intention.

Glucose in the Cerebrospinal Fluid.—According to investigations of Fontanel and Leulier, glycorrhachia with an index of 0.98 gm., or more, signifies always either diabetes, encephalitis or hyperalbuminosis.

Caffein Glycosuria.—Gautier proves that the pronounced glycosuria induced in frogs by caffein injections is due merely to a central action of the drug, since it has no direct influence on other secretory organs.

Sex Influence on Avitaminosis.—Mouriquand and Michel could not ascertain any predilection of either sex for developing avitaminosis. Experiments were made on a large number of male and female guinea-pigs, particular attention having been paid to the observation of the onset of nervous and osteotrophic changes.

Action of Insulin on Thyroidectomized Rabbits.—Duchenau demonstrates that thyroidectomized rabbits are much less resistant against the sequelae of insulin hypoglycemia than normal animals.

Interference of Some Substances with Insulin.—Magenta and Biasotti found that potassium chlorid is as strong an antagonist to insulin as pituitary extract; chlorid of lime acts similarly but somewhat weaker; acetylcholin behaves almost neutrally. Ergotoxin is a high grade but transient synergist, while disodium phosphate intensifies and prolongs hypoglycemia.

Action of Insulin on Milk.—According to the experiments of Giusti and Rietti, made on goats, insulin diminishes slightly the daily amount of milk and decreases its lactose, but increases fats.

Encéphale, Paris

19: 1-72 (Jan.) 1924

Static and Kinetic Aspect of Movements. J. Ramsay Hunt.—p. 11.
Flexion Paraplegia. L. Marchand.—p. 19.
Diffuse Sarcomatosis of Meninges. K. H. Krabbe.—p. 33.
*Tattooing and Sexual Perversions. Dupouy and Minkowski.—p. 40.
Psychology of Schizophrenia. A. Hesnard and R. Laforgue.—p. 45.

Tattooing and Sexual Perversions.—Dupouy and Minkowski report the history of a patient with irresistible impulses to tattoo himself. The impulses alternated with masturbation and pervert sexual intercourse.

Presse Médicale, Paris

32: 133-144 (Feb. 13) 1924

*Anesthesia by Ethylene. E. Papin and L. Ambard.—p. 133.
*Late Effects of Traumatic Lesions. V. Christiansen.—p. 134.
*Surgical Treatment of Angina Pectoris. T. Jonnesco.—p. 138.
Nasal Obstruction and Respiratory Neuroses. G. Gautier.—p. 139.

Anesthesia by Ethylene.—Papin and Ambard extol the use of ethylene as a general anesthetic. It is safe to the patient, agreeable to inhale and, although resembling nitrous oxid, its effect is more pronounced. About 90 parts of ethylene with 10 of oxygen usually suffice for most of the patients, while this is not the case with laughing gas.

Late Effects of Traumatic Lesions.—Christiansen emphasizes that in many cases secondary nervous symptoms occur only years after a primary trauma. This, as an important fact, should be borne in mind by insurance companies, patients and physicians.

Surgical Treatment of Angina Pectoris.—Jonnesco reports six patients with angina pectoris who have been treated by resection of the thoracocervical sympathetic. Three of them died, but the rest recovered entirely.

Revue de Chirurgie, Paris

62: 79-146, 1924

*Cicatricial Obliteration of Gastro-Enterostomy. Delore et al.—p. 79.
*Acute Osteomyelitis of the Spine. C. Mathieu.—p. 96.
*Epidural Anesthesia. P. Mocquot.—p. 120.
Strangulated Obturator Hernia. Grugel.—p. 140.

Cicatricial Obliteration of Gastro-Enterostomy Opening.—Delore says that the patient should be warned of the possibility of early obstruction of the new outlet to the stomach.

owing to the preexisting inflammatory condition. The necessity for a prompt operation in such an event should be impressed on him. "Undoubtedly certain patients have been allowed to die from this cause, the inflammatory stenosis having been mistakenly ascribed to extension of the cancer or ulcer, with hopeless outlook." The signs of the inflammatory stenosis generally appear in the third month or earlier. Eleven cases are reported, with permanent recovery after the opening was made larger by the simple technic described.

Acute Osteomyelitis of Vertebrae.—In two of the five cases Mathieu reports, the fulminating course was due to a process in the body of the vertebra; in the others the process was in the posterior portion of the vertebra and was easily removed, with recovery of the boys. He refuses to accept a contusion or sprain as responsible for osteomyelitis later if there was no local pain or other symptom during the eight days following the accident.

Epidural Anesthesia.—Mocquot gives the history of the Sicard-Cathelin method and his own favorable experience with it in fifty-four cases.

Revue Médicale de la Suisse Romande, Geneva

44: 1-64 (Jan.) 1924

Lambliasis. B. Galli-Valerio.—p. 1.
*Subcutaneous Pseudotumors After Injections. J. L. Nicod.—p. 15.
Case of Androgynous Transvestitism. V. Demole.—p. 25.
*Brain Tumors. G. Bickel and E. Frommel.—p. 33 and p. 45.

Subcutaneous Pseudotumors from Injection of Drugs.—In the two cases described, the inflammatory granulomas developed at points where quinin had been injected, or quinin and camphorated oil, several years before. Their structure is that of a benign growth, but their inexorable persistence and spread call for operative removal. The drug or operative intervention may induce necrosis of the fat tissue, and the fat thus released may persist unresorbed and cause irritation even when oil had not been used for the vehicle. Nicod warns to be cautious with these subcutaneous injections when the local vitality of the tissues is compromised.

Brain Tumors.—Bickel and Frommel give the particulars of the six among their forty cases of brain tumors in which the symptoms had been almost exclusively those of progressive thrombosis: insidious onset; the development by successive mild apoplectic attacks; the habitual retrogression of the symptoms following the attack; the progressive deterioration of the mind, and the age—all over 60. There were no signs of intracranial pressure, and the pulse rate was normal. The spinal puncture fluid showed a high albumin content while the cell count was normal; this differs from the usual findings with simple encephalomalacia. The brain tumor in these puzzling cases was always found in the deeper and more silent regions, especially the region of the centrum ovale or the frontal pole.

In their thirty cases of simple encephalomalacia, they encountered one in which the clinical picture was the reverse of the foregoing. The presumptive diagnosis had been subcortical tumor of the right hemisphere—all the symptoms pointing to a brain tumor, even choked disk and epileptiform seizures, but necropsy revealed merely multiple foci of encephalomalacia.

Schweizer Archiv für Neurol. u. Psychiatrie, Zurich

14: 3-160, 1924

The Nervous System in Cretinism and Hypothyroidism. F. de Quervain.—p. 3.
Physiology of the Vasomotors. W. R. Hess.—p. 20.
Psychic Influence on the Circulatory System. Von Wyss.—p. 30.
*Psychopathology of "Normal" Families. W. Boven.—p. 34.
Simplified Procedure for Staining Myelin Sheaths. E. Landau.—p. 59.
Cerebellopontine Sarcoma. V. Demole.—p. 65.
*The Afferent Sensory Wave. H. Brunschweiler.—p. 68.
Hyperthymia Without Delirium. R. Benon.—p. 77.
*Torsion Spasm. R. Bing and L. Schwartz.—p. 80.
Effects of Decerebration on Thyroids and Suprarenals in Castrated Animals. L. de Lisi.—p. 94.

Psychopathology of "Normal" Families.—In study of thirty-two families, including 600 individuals, Boven found that insanity is conditioned already in early phases of ancestral life which as yet may be considered clinically normal. Yet peculiarities of parental characteristics can result, after two or three generations, in schizophrenia, cyclothymia, paranoia, and so forth. He presents a continuous scale of normal peculiarities, one pole of which—extreme altruism—corresponds to cyclothymia; the other, to dementia praecox. Great moulding factors of and on the primordial morbid predisposition are marriage, education and external causes for conflicts. Boven hopes that more exact knowledge of the laws of characterology will bring about better clinical results, too.

The Afferent Sensory Wave.—According to experiments on dogs, made by Brunschweiler, it can be considered as established that the dynamic and formal differentiation of specific sensory stimuli is not primarily localized in the midbrain or cortex, but in the medulla oblongata. All the fasciculi, the crossed and the direct tracts of the spinal cord manifest a very specific difference in their wave form, as registered by an electrocardiograph. Different types of external stimuli, such as pricking, rubbing and burning, also have a distinct determining influence on the specific sensory wave. The experiments were made according to a theory of Monakow. The dorsal spinal cord was exposed by laminectomy for the electrocardiography.

Torsion Spasm After Epidemic Encephalitis.—Bing and Schwartz describe and comment on several cases which after epidemic encephalitis developed a condition termed torsion dystonia. This is characterized by athetosic movements, muscular spasm in the form of active rigidity but passive overrelaxation, few parkinsonian and even fewer pyramidal symptoms. These were all suggestive of a corpus striatum lesion, abolishing the influence of the paleostriatum, the latter normally acting like a brake on the otherwise extreme muscular tonicity, this being conditioned by the nucleus ruber and cerebellum. The syndrome may be partly explained thus as a "release phenomenon." It can be influenced by Fowler's solution and especially by scopolamin hydrobromid.

Schweizerische medizinische Wochenschrift, Basel

54: 141-164 (Feb. 7) 1924

*Bile and Metabolism. E. Herzfeld and A. Haemmerli.—p. 141.
Microdetermination of Urea. A. Lauterburg.—p. 145.
"Encephalitis of Rabbits." C. Levaditi et al.—p. 149.
Reply. R. Doerr and E. Zdansky.—p. 151.
*Anaphylactic Shock in Guinea-Pigs. P. Schmidt.—p. 151.
High Altitudes and Nervous System. J. Kollarits.—p. 152.

Bile and Metabolism.—Herzfeld and Haemmerli describe the methods they use for quantitative determination of bilirubin, urobilin and biliary acids..

Anaphylactic Shock in Guinea-Pigs.—Schmidt produced all of the symptoms of anaphylactic shock in guinea-pigs using protein-free agar and starch digested with a fresh serum. The inflated lungs resisted compression for many hours after death. He concludes from this that the cause of it is an edema, not a spasm of the bronchioli.

Archivio Italiano di Chirurgia, Bologna

8: 477-592 (Dec.) 1923

*Plastic Operations on the Chest. C. Romiti.—p. 477.
Necrotic Chondritis from Suppurating Goiter. S. Lussana.—p. 522.
Hamartoma of the Intestine. M. Aresu.—p. 529.
Remote Results of Bile Duct Surgery. L. Lazzarini.—p. 541.
Ankylosis of the Jaws. M. Fasano.—p. 575.

Plastic Operations for Chest Defects.—Romiti states that extensive defects in the wall of the rabbit thorax can be effectually patched with a sheet of fascia lata taken fresh from the animal's thigh. In three clinical cases he closed the gap after resection of a large sarcoma or other growth by twisting around a muscle flap from the vicinity; but the fascia lata is stouter and better adapted for the purpose.

Policlinico, Rome

31: 65-120 (Feb. 15) 1924. Surgical Section

*Tansini Sign of Cancer. N. della Mano.—p. 65.
*Relations Between Spleen and Gonads. A. Giunta.—p. 82.
Cervical Neurofibroma. P. Marogna.—p. 93.
*Large Cyst of the Kidney. G. Simoncelli.—p. 105.
Surgery of the Vegetative Nervous System. V. Vidal.—p. 113.

The Tansini Sign of Metastasis of Gastric Cancer.—Della Mano recalls Tansini's statement in 1906 that he had always found the abdomen sunken in with cancer at the pylorus,

unless there was metastasis in the bowel below; in this event the abdomen was always prominent. Della Mano now has a record of fourteen cases in which this Tansini sign was pronounced, while in eight other cases the sunken in abdomen proved a true index of the noninvolvement of the organs below. All in this group of eight were permanently cured by gastrectomy. In the fourteen cases with positive Tansini sign, the metastasis was in the bowel only in 42 per cent. In 50 per cent. there was metastasis in the viscera but not in the bowel. In 8 per cent. there was extensive intestinal metastasis with negative Tansini. In 16 per cent. the prominent abdomen was noted with benign cicatricial stenosis of the pylorus. The enlargement of the abdomen was thus associated with extensive metastasis in the viscera in 80-85 per cent. of the total cases.

Relations Between Spleen and Gonads.—Giunta's study of 120 splenectomized white rats has confirmed the correlation between the spleen and the gonads, similar to that between the thymus and the testes, and the testes and the lymphatic apparatus.

Large Cyst in the Kidney.—In Simoncelli's case the large serous cyst had ruptured, and the young man was in collapse when the fluid was drained with a tube in the cavity of the cyst. He began to improve the third day. The kidney was removed about forty days later. The rupture had occurred spontaneously, but there had been pain in the kidney region for some time before.

A. M. M., Mexico, D. F.

1: 553-598, 1923

*Mal del Pinto in Yucatan. V. Rodriguez Arjona.—p. 555.
*Differentiation of Appendicitis. E. Galán.—p. 563.

Mal del Pinto in Yucatan.—Rodriguez Arjona says that the skin seems normal, except for the depigmentation, in the endemic mal del pinto encountered in Yucatan, but the white patches may cover the entire body in the course of years, unless arrested by potassium iodid in the incipient stage. The depigmentation is permanent. No parasite has been found, but the evidence seems to indicate that it is a mycosis, like other forms of mal del pinto, only affecting deeper tissues. It occurs at all ages and in groups, confirming the contagious nature.

Differentiation of False Appendicitis.—Galán applies the faradic current to the cecum, as in treatment of paresis of the bowel. This overcomes the tendency to fecal stasis. The application proved painless and cleared up the diagnosis in his thirty cases. In three of the patients the symptoms of appendicitis persisted, and the operation followed at once.

Brazil-Medico, Rio de Janeiro

1: 71-82 (Feb. 9) 1924

*Calculus in Urethra Diverticulum. Adhemar Nobre.—p. 71.
Surgical Treatment of Pulmonary Tuberculosis. J. G. Sant' Anna.—p. 72.
*Syphilitic Meningitis. Sully Périssé.—p. 75.

Calculus in Diverticulum of the Urethra.—The diverticulum sagged to the bottom of the scrotum. The calculus measured 6 by 9 cm.

Syphilitic Meningitis.—The two young men developed meningitis without fever, and with comparatively little disturbance of the general health. The headache was frontal and occipital; both were in the second stage of syphilis. Under prompt and vigorous mercurial treatment the meningitis subsided.

Revista Médica del Uruguay, Montevideo

27: 1-32 (Jan.) 1924

*Multiple Osteitis After Pneumonia. Alice Armand Ugón.—p. 1.
Case of Syphilitic Phlebitis. A. Bellagamba.—p. 6.
Fixation of Bismuth in Organism. II. May and Garmendia.—p. 8.
Combined Treatment of Tetanus. M. Rinaldi Guerra.—p. 11.
Ophthalmic Herpes Zoster in Boy. M. Valabrega.—p. 17.

Multiple Osteitis in Pneumonia.—The girl had passed through what seemed to be a typical attack of pneumonia but foci of osteitis developed afterward, and pain in the ears and arm from the first of the disease testified that the pneumococcus had settled in the bones as well as in the lungs from the start. Salicylate was given for three days. The multiple foci of osteitis in the ribs, scapula, femur, ilium and elsewhere all subsided spontaneously in two weeks except the focus in the right hip joint. This kept flaring up for another six weeks.

Semana Médica, Buenos Aires

1: 187-226 (Jan. 31) 1924

*Quinin in Cancer. J. R. Goyena.—p. 187.
Acute Appendicitis. A. J. Pavlovsky.—p. 189.
Painful Form of Acute Poliomyelitis. E. A. Bereterride.—p. 220.
Deformity of Legs from Rickets. C. Lagos Garcia.—p. 221.

Quinin in Treatment of Cancer.—Goyena gives quinin systematically in cases of cancer to subdue the pain from the neuritis caused by the toxic products of the growth. The quinin has a tonic action, besides banishing the pain. He gives it by Castaigne's technic, injecting 20 or 30 c.c. of a 10 per cent. solution on alternate days, giving two tablets of 0.5 gm. each by the mouth on the intervening days, keeping this up for twenty days, and resuming it if the pain returns later.

Archiv für Gynäkologie, Berlin

121: 147-362, 1924

*Prophylaxis of Postnarcotic Disturbances. L. Nürnberger.—p. 147.
*Hypnosis in Gynecology. W. Dick.—p. 157.
*Gastric Carcinoma and Pregnancy. H. H. Schmid.—p. 168.
Blood Extracts and the Tonus of the Uterus. Lönne.—p. 210.
*Ligation of Abdominal Blood Vessels. Offergeld.—p. 239.
*Dystocia Caused by Bandl's Ring. W. Vogel.—p. 255.
Changes in Body Weight in Childbearing. W. Kemper.—p. 268.
*Placenta Circumvallata. W. Lahm.—p. 306.
Syphilis or Cancer of Cervix? W. Lahm.—p. 314.
Unity of Streptococcus Species. E. Philipp.—p. 320.
Vulvovaginitis in Children. A. Kahn.—p. 335.
*"Folliculoma Ovarii Carcinomatodes." K. Ulesko-Stroganowa.—p. 340.
Epithelial Dysplasia in the Vagina. W. Schiller.—p. 351.

Prophylaxis of Postnarcotic Disturbances.—Nürnberger found in sixty cases of mixed chloroform-ether anesthesia that those in which the ionic acidity of the urine happened to increase were less liable to postnarcotic vomiting or other untoward symptoms. Intravenous injections of a 5-10 per cent. sodium chlorid solution materially reduced the frequency of postnarcotic vomiting.

Hypnosis in Gynecology.—Dick extols the benefit of hypnosis in either quieting excited or extremely bashful patients before examination, or as posthypnotic suggestion to avoid untoward effects of anesthetics, such as vomiting and headache.

Gastric Cancer and Pregnancy.—Schmid draws a very sinister prognosis for gastric carcinoma in the pregnant. Of his forty-four cases, fourteen proved to be complicated with ovarian metastases; two-thirds of all cases had a fatal outcome for the infants, and all the mothers have died. "There is nothing else to do but to make an early diagnosis and immediately proceed to a radical operation, both on the stomach and the internal genitals."

Ligation of Large Abdominal Blood Vessels.—Offergeld comments on cases from the older and modern surgical literature in which large abdominal vessels have been ligated. In the past century, surgeons believed that a somewhat mysterious "maldistribution" of blood, causing congestion of the internal organs, was the cause of the fatality. But the modern opinion is that in these cases the real cause of death is only an acutely developing insufficiency of the heart.

Dystocia Caused by Bandl's Ring.—Vogel says that dystocia owing to Bandl's ring is favored by premature rupture of the membranes, by intra-uterine manipulations and by irregular, extremely agonizing pains. It is worth noticing that a narrow pelvis does not contribute at all to the development of a contraction ring. Bandl's phenomenon is a signal of utmost danger for the child; it also represents a greater liability to infection for the mother.

Explanation of Placenta Circumvallata.—Lahm expresses the theory that the main cause for developing a placenta circumvallata is a decidual "contraction ring" arising secondarily, owing to a primary, very deep insertion or nidation of the ovum.

Ovarian Cancers.—Ulesko-Stroganowa describes the histogenesis of epithelial ovarian tumors.

Archiv für klinische Chirurgie, Berlin

128: 1-452, 1924

*Megaduodenum. E. Melchior.—p. 1.
Surgical Pathology of Duodenum. III and IV. Idem.—p. 11 and 16.
*Pathologic Anatomy of Ulcer Gastritis. T. Kalima.—p. 20.
*Gastric Tuberculosis. H. J. Willerding.—p. 109.
Unsuccessful Gallstone Operations. E. Lick.—p. 118.
Gallbladder Colic Without Gallstone. Oehlecker.—p. 141.
*Surgical Treatment of Hydrocephalus. Koljubakin.—p. 151.
Hydatid Cyst in Bone. L. Kirchmayr.—p. 162.
The Thymus in Exophthalmic Goiter. H. Klose and A. Hellwig.—p. 175.
Diagnosis of Goiters. B. Breitner.—p. 183.
Intrathoracic Goiter. T. Hünermann.—p. 202.
Access to Thoracic Duct. M. S. Lissitzyn.—p. 215.
Surgical Anatomy of Main Arteries. Idem.—p. 226.
Diverticulum in Lower Third of Esophagus. Dessecker.—p. 236.
Wound Healing After Sympathectomy. Placintianu.—p. 248.
*Periarterial Sympathectomy for Migraine. Hellwig.—p. 261.
Pedunculated Sarcoma on Stomach. R. Demel.—p. 286.
*Changes in Bones in Scleroderma. Leontjewa.—p. 293.
Metaplasia of Connective Tissue in Bone Implants. Rohde.—p. 302.
Joint Formation in Lumbar Vertebra. Göcke.—p. 334.
Healing Capacity of Fractured Neck of Femur. Bonn.—p. 342.
Köhler's Disease. E. König and H. Rauch.—p. 369.
Regeneration of Colon After Resection. Hofmann.—p. 382.
Pharynx Prosthesis. E. Suchanek.—p. 394.
Elephantiasis of the Gums. W. E. Salistscheff.—p. 404.
*Actinomycosis Appendicitis. I. I. Kaplan.—p. 410.
*Artificial Ischemia Preliminary to Splenectomy. Huber.—p. 417.
Injury of Nerves in Fracture of the Radius. Turner.—p. 422.
Hairpin in Duodenum Causing Cholecystitis. Oehlecker.—p. 437.
Stomach Fistula with Siphon Drainage in Treatment of Peritonitis. E. Kutscha-Lissberg.—p. 440.
Osteomyelitic Genu Recurvatum. Ciminata.—p. 444.
Free Bone Flap to Close Defect in Skull. Brusken.—p. 448.
Seated Position for Operations on Brain. O. Muck.—p. 450.

The Megaduodenum.—Melchior explains that the pathologic enlargement of the duodenum depends mainly on congenital factors. It can be diagnosed radiographically, but other typical symptoms, such as periodic attacks of pain, constipation, bulging epigastrium, visible peristalsis and vomiting, may all be absent. Megaduodenum is often combined with pyloric occlusion. If the motor function of the duodenum be disturbed, interference is indicated. The operation of choice seems to be infracolonic duodenojejunostomy. He has applied this treatment to three patients within the last few years. He also describes cases with impaired duodenal passage in acute pancreatitis, and other cases with a freely movable duodenum.

Pathologic Anatomy of Ulcer Gastritis.—Kalima made a very thorough experimental study of the interrelation between gastritis and gastric ulcer. Erosions on the mucosa could be artificially provoked by local circulatory disturbances, chemical, thermic, toxic, mycotic and infectious irritation, or by induced glandular hyperfunction. It seems that a congenital organic substandard condition is a contributing factor, since the multiplicity and tendency to recurrence of the ulcers prove general susceptibility to ulceration. Very often open erosions are found beside ulcers already progressing toward cicatrization. Erosions are more liable to occur in the distal parts of the stomach, because these are more exposed to injuries. The therapy must consequently be more than merely surgical, since radical operation does not relieve the patient's gastric susceptibility to ulceration. He recommends a carefully selected and observed diet as the main indication.

Gastric Tuberculosis.—Willerding enumerates the etiologic moments of gastric tuberculosis. The route of infection may be hematogenous, lymphogenous, transserosa, from swallowing of sputum in pulmonary tuberculosis, and, finally, by way of antiperistalsis, the bacilli might enter the stomach from the intestine. Intracutaneous Pomndorf injections or Petruschky's tuberculin liniment should be given a trial General hygienic measures are of paramount importance. If surgical intervention be needed, radical operation realizes better and for the future safer results than gastro-enterostomy. In thirty-six operative cases on record, nineteen of the patients recovered.

Surgical Treatment of Hydrocephalus. — Koljubakin describes several technics advanced for the surgical treatment of hydrocephalus, saying that Küttner and Wenglowsky's method has been found most reliable. This consists in an autoplastic internal drainage with a little tube made from the patient's dura mater. For the purpose of differentiating hydrocephalus from obstruction, hypersecretion or defective absorption, Frazier's test is available, namely, injection of 1 c.c. of phenolsulphonephthalein in the brain ventricle, and observing whether or not this stain appears in the spinal fluid.

Periarterial Sympathectomy in Migraine.—For the therapy of extremely grave migraine, Hellwig suggests surgical interference consisting of periarterial sympathectomy on the internal and external carotids, close to the base of the skull. For about two weeks the side operated on shows an increased temperature, as compared with its mate. But the almost instantaneously disappearing pain has no tendency to recur. The success of this operation is based on the theory that migraine is either a peripheral, central or reflex angiospasm, closely akin to acroparesthesia, erythromelalgia and intermittent claudication. In its etiology, abnormal suprarenal functioning is supposed to be of import, beside a general angiospastic predisposition. He reports experimental but no clinical experience with pericarotid sympathectomy.

Changes of Bones and Joints in Scleroderma.—Leontjewa reviews 200 cases from the literature of changes in bones and joints as corollary to scleroderma. She assumes that glandular disorder must also play a rôle, because in one case hypotonia, asthenia and pigmentation were suggestive of suprarenal hypofunction, while polyuria suggested a pituitary origin. However, this disorder may possibly be merely one single group of symptoms in a higher pathologic entity—a general predisposition, not fully understood as yet.

Actinomycosis Appendicitis.—Kaplan describes the case of a woman who had a vulvar abscess and often ate raw beef. Her husband was an attendant at the Zoological Garden. She complained of abdominal pains and of swelling of lymph glands. Finally, symptoms developed, partly suggesting appendicitis (temperature 100 F., pulse 132), partly resembling a cecal cancer. The case seemed first to be inoperable, but after energetic roentgen-ray treatment the tumor became homogeneized so as to permit an operation. This done, the case revealed itself to be appendicitis with an extremely rare etiology, namely, actinomycosis. The patient recovered entirely.

Artificial Ischemia as Aid in Extirpation of the Spleen.—Huber recommends subcutaneous injections of epinephrin to induce artificial ischemia in the enlarged spleen before attempting splenectomy. In a case described, with a large Banti spleen tumor, this answered the purpose so well that the extirpation was performed on a practically bloodless organ.

Deutsches Archiv für klinische Medizin, Leipzig

143: 273-380 (Jan.) 1924

Illuminating Gas Poisoning. Aufrecht.—p. 273.
Modified Schüffner's Blood Stain. H. Hackenthal.—p. 276.
*Protein Metabolism in Acromegaly. Thannhauser and Curtius.—p. 287.
Chemistry of Body Fluids. A. M. Brogsitter and E. Krauss.—p. 297.
Economy of Muscle Action. E. Grafe.—p. 309.
Microdetermination of Blood Urea. Y. Nakashima and K. Maruoka.—p. 318.
*Respiratory Metabolism. G. Waldbott.—p. 325.
*Acute Myelosis After Bees' Stings. W. Parrisius and H. Heimberger.—p. 335.
*Diabetes and Pregnancy. A. Lublin.—p. 342.
Overfeeding with Fat. E. Grafe and A. Weissmann.—p. 350.
Thrombo-arteriolitis in Lungs. G. Lang.—p. 359.
*Hypertension in Heart Insufficiency. Loschkarewa.—p. 364.
"Leukemic Reticulo-Endotheliosis." V. Schilling.—p. 374. Reply. O. Ewald.—p. 375.

Protein Metabolism in Acromegaly.—Thannhauser and Curtius put an acromegalic patient on a protein miminum and examined his metabolism. The endogenous uric acid elimination was about twice higher than normal, as Falta had found; the nitrogen minimum was also increased. These figures became normal after deep roentgen treatment of the head. A control presented no such changes after irradiation.

Action of Acids, Alkalis and Neutral Salts on Respiratory Metabolism.—Waldbott observed an increase in oxygen intake after moderate doses of acids, alkalis and neutral salts.

Acute Myelosis After Bees' Stings.—Parrisius and Heimberger report two cases of acute fatal leukemia, which occurred in patients stung shortly before by fifteen to forty bees. The blood cells were very atypical, and the opinions of hematologists in regard to them differed.

Diabetes and Pregnancy.—Lublin reports on three diabetic women in whom a pregnancy had no unfavorable influence on the diabetes. Another patient, who had syphilis, recovered from a severe type of diabetes after artificial abortion.

Hypertension in Heart Insufficiency.—Loschkarewa observed in more than one half of the patients a lowering of the blood pressure when the insufficiency of the circulation improved. The blood pressure increased only exceptionally.

Deutsche medizinische Wochenschrift, Leipzig

50: 195-226 (Feb. 15) 1924

Disturbances of Menstruation. M. Henkel.—p. 195.
*Psychophysical Reaction. J. Plesch.—p. 198.
*Surface Anesthesia with Cocain. U. Gehse.—p. 200.
Dermatomycoses at Leipzig. H. Sohmann—p. 201.
*Mucous Ascites. L. Nelken.—p. 202.
Prevention of Tuberculosis. Redeker.—p. 204.
*Venereal Diseases in Children. M. Gumpert.—p. 206.
Wound Scarlet Fever. B. Günther.—p. 208.
Rare Poisonings. A. Mutschlechner.—p. 210.
To Obtain Oscillating Currents. Rumpf.—p. 210.
Kaolin Scybala. Oldag.—p. 211.
Recent Progress in Neurology. H. G. Creutzfeldt.—p. 211.
R. Koch's Diary.—p. 216. Cont'n.

Psychophysical Reaction.—Plesch believes that the imagined act of walking causes a favorable hyperemia in a broken leg. For this, it is important that the patient should call to mind vividly some walk to which he is accustomed, recalling the passing of certain houses, crossing the street, etc. Rest cures do not consist of merely lying in bed. All the stimuli should be eliminated which might set the imagination to working. Among other instances to prove his contention, he cites the case of a patient with typhoid who continued to fight his nurses until they removed a picture of a battle hanging opposite his bed.

Surface Anesthesia with Cocain.—Gehse discards potassium sulphate from Hirsch's solution as useless, and recommends the following formula: Cocain hydrochlorid, 2 gm. (or procain, 4 gm.); phenol, 0.35 gm.; 0.9 per cent. sodium chlorid solution to 100 gm. Before using he adds 10-20 drops of a 0.1 per cent. solution of epinephrin. The cocain does not deteriorate. He believes that this solution acts as potently as a 10-15 per cent. cocain solution without phenol. It is intended for surface anesthesia of mucous membranes, especially of the nose, mouth and larynx.

Mucous Ascites.—Nelken reports the history of a sailor, aged 20, with mucous ascites. It was due to a lymphangioendothelioma of the peritoneum. The patient recovered after roentgen-ray treatment.

Venereal Diseases in Children.—Gumpert observed within three months, in Buschke's clinic at Berlin, fifteen cases of venereal infection of children, acquired mostly from boarders. Incest was admitted in two instances.

Deutsche Zeitschrift für Chirurgie, Leipzig

183: 289-426 (Jan.) 1924

*Torsion-Dislocation of Atlas. P. Sudeck.—p. 289.
The General Anesthesia Question. P. Balkhausen.—p. 304.
*Protein Therapy in Acute Inflammations. F. W. Kaess.—p. 316.
*Shortening Leg to Fit Its Mate. T. Mayeda.—p. 343.
Stenosis of Pylorus of Tuberculous Origin. R. Demel.—p. 348.
Habitual Dislocation of Jaw. H. Nieden.—p. 358.
*Treatment with Own Blood. J. Vorschütz and B. Tenckhoff.—p. 364.
To Reduce Risks of Gastroscopy. W. Sternberg.—p. 380.
Ligation of Vessels at Splenectomy. L. Bischof.—p. 396.
More Extensive Mammectomies for Cancer. Id.—p. 400.
Tumors of Male Breast. J. Grupen.—p. 406.
*Antethoracic Esophagus. Saier.—p. 410. Idem. O. Roith.—p. 419.
Neurinoma of Obturator Nerve. K. H. Erb.—p. 414.
Perforation in Ascarid Ileus. J. Amberger.—p. 424.

Torsion Dislocation of Atlas.—The dislocation occurred in Sudeck's two cases from the head being passively twisted too far in general anesthesia (his own daughter, aged 8) or from active traction by the muscles. The correction under general anesthesia, undertaken the fourth week, proved promptly successful in the first case by the technic described. In the other child, the interval of more than four months had evidently entailed changes preventing reduction which would have been easy at first.

Protein Therapy in Acute Surgical Inflammatory Affections.—Kaess reiterates that there does not seem to be any difference between the action of the different proteins; it is only a question of the optimal dose. If benefit is apparent by the second or third injection, he continues with increasing doses, but if no effect is observed, he suspends the treatment for eight or ten days. The system is then sensitized, and resumption of the injections then may have a surprisingly beneficial effect. The most favorable results were observed in erysipelas (4 in 7 cases). In joint inflammatory processes the gonococcal seemed to be most promptly amenable, and in mild forms of all kinds of arthritis the protein therapy rendered surgical measures unnecessary. In the severe forms, with a septic condition, transfusion of 50-100 c.c. of blood seemed to be superior to all other forms of protein therapy in the general effect, especially to reenforce surgical measures. With too large doses (absolute or relative), proteinogenous cachexia may be induced, the heart weakening, with general debility, blood-stained diarrhea and a peculiar devitalized condition of the wound which assumes an aspect like that after death. This cachexia followed in one of his cases after a single protein injection. He had 4 instances of it in his total 17 cases described, one fatal. Symptoms of actual anaphylaxis may be observed when there is an interval of five or ten days between two injections, but they are transient and generally harmlessly subside. He had 3 instances of this hypersensitivity. In one case the collapse followed an intravenous injection of the protein eight days after the first injection; it lasted for an hour and then gradually subsided. He regards the focal effect of the injection as the main factor in the benefit. Whether to make the injection into muscle or skin, subcutaneously or intravenously depends on the affection. He gives the minute details of the treatment in the three groups, erysipelas, arthritis and purulent pleurisy.

To Shorten the Leg.—Mayeda illustrates his method of shortening the leg to bring it to the same length as the other leg. He regards this as safer than to attempt to lengthen a leg that has been arrested in its development by spinal paralysis and hence is weak in bone and muscle. He found this shortening technic extremely satisfactory in two cases reported.

Treatment with Own Blood.—Vorschütz and Tenckhoff now have a record of several hundred cases treated with intramuscular injection of unmodified own blood, and extol this as a simple, harmless and eminently effective method of treatment with the further advantage, they add, of being inexpensive. They say that it competes with and surpasses all forms of specific serums and vaccines and nonspecific proteins. They inject 30-50 c.c. as the average dose. They use two 10 c.c. syringes. One operator draws the blood from the outer side of the thigh and hands the syringe to the other who injects the blood in a vein at the elbow, rinses the syringe and hands it back to the first operator, who has now a second syringe filled. Even when the blood is defibrinated, it is better to have the two operators working together, as also when merely the own serum is used. They think that the own blood exerts both an active and a passive immunization action, depending on the stage of the process at the moment. They apply this treatment to all diseases which are known to produce antibodies, confident that it will help in every infectious disease, acute or chronic. With intravenous infusion of defibrinated own blood, phlegmons, furuncles and carbuncles are either resorbed, or they soften rapidly and expel their contents. In one case, senile pruritus subsided completely after a single injection of defibrinated own blood. They report also the subsidence of neuralgia and of the pains with inoperable cancer after intravenous injection of own defibrinated blood. Evidently it acts in such cases by reducing inflammatory infiltration. It tends to make the tissues more susceptible to radiotherapy. Spiethoff and Martius have confirmed this sensitizing action on tumors. They declare that all the advantages of autogenous vaccines, serotherapy, etc., can be realized with the own or convalescents' blood treatment, even for prophylactic immunization (other members of the family, nurses, physicians). They add in a footnote that the disagreeable by-effects sometimes observed after injection of defibrinated blood can be avoided by letting the defibrinated blood stand for two or three days before injecting it. This averts all danger of shock or collapse, but the effect is less evident. They think that separation of the

euglobulin and the pseudo-euglobulin may open further possibilities in own blood and convalescents' blood treatment.

Artificial Esophagus.—Saier describes a case which shows that such an extensive operation as antethoracic esophagoplasty has no prospect of success in case of malignant disease. In the successful cases on record the stenosis was of caustic origin. Roith's patient died from an intercurrent disease three years after the new esophagus had been made from the transplanted transverse colon, at a single operation.

Klinische Wochenschrift, Berlin

3: 305-336 (Feb. 19) 1924

Percussion and Auscultation. P. Martini.—p. 305. Conc'n, p. 339.
*The Endocrines and Phagocytosis. L. Asher.—p. 308.
*Heredity in Skin Diseases. H. W. Siemens.—p. 309.
*Disturbances of Vegetative System. K. Dresel.—p. 311.
*Treatment of Stammering. E. Fröschels.—p. 313.
*Scurvy and Infection. E. Nassau and M. Scherzer.—p. 314.
Treatment of Arthropathies. J. Dengler.—p. 316.
*Endemic Sodium Bromid Poisoning. R. Gralka.—p. 319.
"Gas Edema Research." J. Zeissler.—p. 322.
"Humoral Transmission of Nerve Impulses." O. Loewi.—p. 323.
*Action of Insulin. J. A. Collazo et al.—p. 323.
*Closing of Umbilical Arteries. W. Rech.—p. 323.
Hereditary Clubbed Thumbs. H. Hoffmann.—p. 324.
Operative Treatment of Bladder Tumors. W. Baetzner.—p. 325.
*Hereditary Syphilis in Welander Homes. O. Rosenthal.—p. 326.

The Endocrines and Phagocytosis.—Asher produced aseptic peritonitis in rabbits after thyroidectomy or ovariectomy. He found that only 4-7 per cent. of large exudate cells from thyroidectomized animals take up particles of charcoal, while the controls were active in 30-33 per cent. There was no phagocytosis of polymorphonuclears by monocytes, as in normal rabbits. The results were similar, but less pronounced, in the ovariectomized rabbits.

Heredity in Skin Diseases.—Siemens utilized the similarity of the findings in univitelline twins to disprove or prove heredity in certain affections of the skin. His research included almost 100 pairs of twins. Contrary to the common opinion, heredity is nonessential in nevi, both the pigmented and the vascular. The twin pair display the same likeness and the same differences as the right and left sides of the human body. Contrary to nevi, teleangiectasia of the face is hereditary. Freckles, chloasma, acrocyanosis, cutis marmorata, seborrheic acne, eczema, and the color of the hair and its changes are hereditary. Caries of teeth is not.

Disturbances of Vegetative System.—Dresel deals with the changes of calcium and potassium concentration in vagotonia and sympathicotonia. In vagotonia, the tissues are more alkaline and contain less colloidal calcium and more potassium. The blood is more alkaline and has little potassium, little ionized calcium, and more total calcium. In sympathicotonia all these changes are the reverse. They allow differentiation of spasmophilia from parasympathetic irritation and real tetany.

Treatment of Stammering.—Fröschels describes his method of treatment of stammering.

Scurvy and Infection.—Nassau and Scherzer infected young guinea-pigs with *Trypanosoma brucei.* Experimental scurvy appeared in these animals earlier and progressed more rapidly than in the controls.

Endemic Sodium Bromid Poisoning.—Gralka observed the poisoning of the family of a druggist. The symptoms were sleepiness, loss of memory, and disturbance of speech. The first suspicion was poisoning from illuminating gas. Later he found that they had used by mistake sodium bromid instead of chlorid for salt.

Action of Insulin.—Collazo, Händel and Rubino conclude from their experiments that insulin increases both the formation of glycogen and of lactic acid, and the cleavage of lactacidogen. They killed the animals before the beginning of the hypoglycemic spasms, which would have caused a loss in glycogen.

Closing of Umbilical Arteries.—Rech found that the physiologic closing of umbilical arteries depends on the oxygen content of the blood.. Therefore, the fetus bleeds to death if these arteries are injured before the delivery. On the other hand, a new-born baby does not bleed if the pulmonary respiration is good.

Hereditary Syphilis in Welander Homes.—Rosenthal reports on the results of a home for hereditary syphilitic children in Berlin. The system was devised by Welander (Stockholm), who had excellent results with keeping such children for two or three years in the institution and supervising them later. The Welander home in Berlin had similar results. Only children with irreparable lesions were rejected, because the institution aimed to prove the possibility of a complete cure. It had to be closed in 1922 on account of lack of funds.

Medizinische Klinik, Berlin

20: 201-234 (Feb. 17) 1924

*Tuberculosis of Male Sex Organs. L. Sussig.—p. 201.
Chronic Affections of Joints. F. Munk.—p. 204. Conc'n.
*Melanoplakia of Mouth. F. Reiche.—p. 206.
Central Affections of Vestibular Nerve. Wodak and Fischer.—p. 209.
*Traumatic Tuberculosis of Peritoneum. H. Gerhartz.—p. 211.
*Autoserum Treatment of Cancer. H. Zerner.—p. 212.
*Compression of Spinal Cord. O. Maas.—p. 213.
*Chronic Dysentery. Robinski.—p. 214.
Staining of Tubercle Bacilli. W. Lorentz.—p. 217.
"Etiology of Multiple Sclerosis." Rothfeld.—p. 217. Reply. Kuhn.—p. 218.
Survey on Psychotherapy. W. Stekel.—p. 220. Conc'n.

Tuberculosis of Male Sex Organs.—Sussig found that 90 per cent. of patients castrated on account of tuberculosis of the testis or epididymis have recurrences in the remaining sex organs. Nevertheless the removal of the diseased organ is indicated. Good general after-treatment is necessary.

Melanoplakia of Mouth.—Reiche observed patches of pigmentation of the mucosa of the mouth in about one half of the patients of colored races. They also occurred in the white population, especially in dark-haired persons. The frequency of cirrhosis of the liver and of gastric ulcers among these patients with melanoplakia was striking.

Traumatic Tuberculosis of the Peritoneum.—Gerhartz admits the possibility of a causal relation of injury with tuberculosis of the peritoneum, even if the interval between the fully developed tuberculosis and the accident is over half a year. If the first objective signs did not occur until after an interval of a month, at least some impairment of the general condition meanwhile is necessary to assume a causal connection.

Autoserum Treatment of Cancer.—Zerner's results show that autoserum treatment can be used only as an adjuvant to operations or irradiation in treatment of cancer.

Compression of Spinal Cord.—Maas' patient was suffering from a psammoma of the dura mater in the plane of the tenth dorsal vertebra. The tumor was removed nine months after the appearance of the first symptoms (pains in one foot), and six weeks after the paraplegia was complete. Nevertheless she recovered in two and a half months.

Chronic Dysentery.—Robinski considers the feeling of exhaustion as the principal sign of chronic dysentery. Occasional pains in the left side of the abdomen, lack of appetite, irregular movements of the bowels, arthritis and neuritis are frequent. The cachexia may be extreme. Agglutination of dysentery bacilli confirms the diagnosis. Autovaccines are of therapeutic value.

Münchener medizinische Wochenschrift, Munich

71: 153-190 (Feb. 8) 1924. Dedicated to Stintzing

Seventieth Birthday of R. Stintzing. M. Matthes.—p. 153.
*Tracheitis. F. Köhler.—p. 154.
Action of Mineral Baths. A. Martin.—p. 155.
Disturbances of Maturation. F. Lommel.—p. 156.
Paradoxic Facialis Reaction. Reichmann.—p. 157.
Phimosis in Children. R. Sievers.—p. 158.
Treatment of Scleroderma. A. Rothacker.—p. 159.
*Treatment of Hypertension. Grober.—p. 160.
Titration of Stimulants for the Skin. R. Cobet.—p. 161.
*Action of Roentgen Rays. K. Gutzeit et al.—p. 162.
Insufficiency of Pulmonary Artery. L. Ulrich.—p. 165.
*Treatment of Seasickness. R. W. Genée.—p. 166.
*Theory of Diabetes. O. Müller and M. Gänsslen.—p. 167.
*Insulin and Rigor Mortis. H. Baur et al.—p. 169.
*Blood Pressure in Pneumonia. W. Kempmann.—p. 170.
*Resistance of Gonococci. E. H. Lorentz.—p. 173.
*Accidents in Goiter Operations. W. Pfanner.—p. 175.
"Spasms in Encephalitis." E. Thomas.—p. 176.
*"Application of Drugs on the Tongue." E. Urbantschitsch.—p. 176.
Epilepsy. H. Curschmann.—p. 176.
Health and Invalidity Insurance in England. R. Güterbock.—p. 178.

Tracheitis.—Köhler warns against outdoor air in influenzal tracheitis. Two weeks of rest in a warm room, hot drinks and hot baths cure the condition.

Treatment of Hypertension.—Grober had good results with small doses of thyroid preparations in hypertension. The weight decreased only in patients whose pressure remained high.

Stimulating Action of Roentgen Rays.—Gutzeit, Brinkmann and Kötschau irradiated various bacilli with small doses of roentgen rays. The motility of the pyocyaneus, typhoid and especially paratyphoid bacilli was increased. The production of acid by colon and pneumobacilli was also higher than in the controls.

Treatment of Seasickness.—Genée reports very good results with Leege's *kopfstaubinde* which compresses the jugular veins. Thus the brain is kept hyperemic, without other by-effects.

Theory of Diabetes.—Müller and Gänsslen observed after injections of insulin a greater decline in the tissue sugar, than in the blood sugar. For a short period, the tissue sugar concentration becomes lower than the glycemia, as is the rule in normal subjects. They conclude that injection of insulin is followed by a marked increase in the sugar metabolism in the tissues.

Insulin and Rigor Mortis.—Baur, Kuhn and Wacker observed a very rapid development of rigor mortis in rabbits after insulin (in five to thirty minutes after death). They titrated the acidity and alkalinity of the muscles and found contrary to expectation that the alkalinity was higher than the acidity, and the acidity lower than in normal animals. The acidity was low even before the rigor started. This "alkaline rigor," in their opinion, is due to a prevalence of the oxybiontic phase (Meyerhof) over the anoxybiontic. They found a similar condition in the muscles of killed fasting animals.

Blood Pressure in Pneumonia.—Kempmann found the blood pressure normal in the majority of his sixty pneumonia patients.

Resistance of Gonococci.—Lorentz found that drying of the gonococci was practically the only important reason why gonococci could not be cultivated from the pus.

Accidents in Goiter Operations.—Pfanner points to the dangers of loosening of ligatures of the thyroid veins in every increase of venous pressure, as in coughing or vomiting. The loss of blood is not dangerous, but the hematoma may compress the trachea, like a valve, and prevent expiration, until the patient is suffocated. Air embolism is also possible. He observed one case with the typical water-wheel sound at the heart. Immediate lowering of the trunk, reopening the wound under a continuous stream of physiologic solution of sodium chlorid, and tamponing saved the life of the patient.

"Application of Drugs on the Tongue."—Urbantschitsch has been using for fifteen years the method of applying drugs on the tongue, and recommended it in 1911.

Wiener klinische Wochenschrift, Vienna

37: 155-178 (Feb. 14) 1924

*Protein Treatment in Glycosuria. G. Singer.—p. 155.
Lymphogranulomatosis. A. Hittmair et al.—p. 159. Conc'n, p. 190.
Abortive Treatment of Syphilis. R. Polland.—p. 162.
Thrombosis of Portal Vein. M. Gang.—p. 164.
Etiology of Ozena. M. Shiga.—p. 167.
Lymphadenitis of Cheek. H. Lehmann.—p. 169.
Malpractice. Haberda.—p. 170.

Parenteral Protein Treatment in Glycosuria. — Singer observed a fairly good action of milk injections on the hyperglycemia and glycosuria in diabetics.

Zeitschrift für klinische Medizin, Berlin

99: 1-328, 1923. Dedicated to W. His

*Eczema and Diathesis. B. Bloch.—p. 2.
Venous Carbon Dioxid Tension. A. Loewy and G. Michel.—p. 15.
*The Uric Acid Problem. F. Gudzent.—p. 20.
*Diets in Diabetes. W. Falta.—p. 39.
*Metabolism in Dwarfs. R. Staehelin and A. Gigon.—p. 52.
Metabolism After Strumectomy. R. Staehelin et al.—p. 63.
*Regulation of Osmosis. P. Jungmann and H. Bernhardt.—p. 84.
*Pathogenesis of Lymphogranuloma. Kuczynski and Hauck.—p. 102.
*Blood Calcium in Kidney Insufficiency. H. Zondek et al.—p. 129.
*Action of Hormones. H. Zondek and T. Reiter.—p. 139.
*Specific Dynamic Action of Food. H. Bernhardt.—p. 149.
Respiration of Cells. K. Grassheim.—p. 154.
Experimental Change of Tachogramm. W. Lueg.—p. 176.
Adsorption and Distribution of Drugs. II. E. Keeser.—p. 186.
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*Sympathectomy in Angina Pectoris. Kohler and von der Weth.—p. 205.
*Differential Blood Counts. V. Schilling.—p. 232.
*Monocytes in Exudates. V. Schilling and H. W. Bansi.—p. 248.
Symptoms of Tobacco Poisoning. F. Külbs.—p. 258.
*The Arndt-Schulz Law and the Roentgen Rays. Frik and Krüger.—p. 264.
Skatol Derivatives in Hematoporphyrinuria. C. Maase.—p. 270.
Hemiatrophy of the Tongue. A. Simons.—p. 286.
Acute Nephritis in Children. C. Noeggerath.—p. 295.
Spontaneous and Experimental Syphilis in Rabbits. W. Worms.—p. 313.

Eczema and Diathesis.—B. Bloch tested the intact skin of 1,200 persons with eight different substances (quinin, iodoform and turpentine among others), applying the agent for twenty-four hours. About one quarter of the subjects were suffering from eczema. The intact skin reacted with a typical eczema in 35 per cent. of those who were subject to eczema, but only in 5 per cent. of the rest. He considers this group of 5 per cent. as eczema candidates. Three quarters of the positive normal subjects and one half of the eczematous reacted only to one of the substances used. Brocq divides skin diseases into two groups, the group of "true pathologic entities," such as tuberculosis, and the group of "cutaneous reactions," in which the provoking agent may be of various kinds. The constitution of the skin is the only decisive factor in the latter. Bloch was able to produce an almost universal eczema in two susceptible patients with 1 cg. of the substance. A patient with bronchial asthma from horse proteins reacted with an eczema to their external application.

The Uric Acid Problem.—Gudzent doubts the presence of "bound" uric acid in blood. He finds, especially with the dialysis method, that practically all of it circulates as monosodium urate. This compound has a solubility of 13 mg. per hundred cubic centimeters of water. Such concentration is reached only exceptionally in leukemia and nephritis. He confirmed in 30 per cent. of his gout cases Magnus-Levy's observation on gout without hyperuricacidemia. A uricolytic ferment has not been found so far in human organs. The so-called endogenous uric acid is very variable. It depends on the secretion of the glands of the gastro-intestinal system and on the condition of the bowel (low figures in fermentation). Glandular secretions (tears, etc.) contain uric acid in about the same concentration as the blood. Brugsch and Rother's figures for the bile are too high. He and Wille injected sodium urate intravenously. The salt disappeared quickly from the blood, as all injected substances do. Later it reappeared in some subjects, and was eliminated by the kidneys almost quantitatively. In other persons, especially in gout, a large part was retained by the tissues. This "uratohistechia" explains the typical retention of urates in the beginning of the attack (His), and Beckmann's similar observations in an edematous patient with an attack of gout. Uric acid is not the primary cause of gout. There must be a specific affection of the tissues. The local accumulations of uric acid and their sequelae are only a secondary, though important symptom.

Diets in Diabetes.—Falta deals critically with the more recent methods of dietetic management of diabetes. He is opposed to the starvation treatment, and believes that the body weight must be protected except in obese patients. He agrees with Petrén in regard to the innocuousness of fat if the protein intake is kept under an individually different, very low level. Yet he points out that at least a small amount of carbohydrates should be given. He combines Petrén's method with his flour-fruits diet. The danger of heart failure in a too prolonged diet with extremely small amounts of proteins must not be underestimated.

Metabolism in Dwarfs.—Staehelin and Gigon determined the respiratory quotient in two adult female dwarfs. In one of them the nanism was probably due to aplasia of the pituitary gland. The heat production was identical with that of two healthy children of the same weight and height.

Regulation of Osmosis and the Nervous System.—Jungmann and Bernhardt conclude from their experiments on frogs that the pituitary gland produces a hormone for the centers of the

diencephalon, as formulated by Biedl. The cooperation of both organs is necessary for the normal water and salt metabolism. There was no indication of a direct general action of a pituitary hormone on the tissues.

Pathogenesis of Lymphogranuloma.—Kuczynski and Hauck conclude from their histologic findings that the giant cells of the lymphogranuloma contain the virus of the disease. They class it between the actinomyces and the tubercle bacillus. Only fresh sections can be used. Details of the technic and numerous illustrations are given.

Blood Calcium in Kidney Insufficiency.—Zondek, Petow and Siebert observed a lowering of the blood calcium in beginning insufficiency of the kidneys. Insufficiency is very probable if the calcium content is 8.5 mg. per hundred cubic centimeters of blood. In the preuremic stage it was as low as 7 mg. If, however, the insufficiency was due rather to a mechanical reduction of the parenchyma (tuberculosis of kidneys), the figures were above normal (up to 13 mg.).

Action of Hormones.—Zondek and Reiter publish their experiments on tadpoles. The inhibitory action of thyroxin on the growth was counteracted and inverted by calcium. Growth was enhanced by potassium. Both ions changed in a similar way the action of thymus. The authors believe that the vegetative nervous system regulates the action of hormones by changing the constellation of electrolytes on the periphery (cell membrane).

Specific Dynamic Action of Food.—Bernhardt confirms the normal basal metabolism rate in affections of the pituitary gland. The specific dynamic action of the food is lower than in the normal control, but it was also lower in hypothyroidism, in Addison's disease, and in some pluriglandular syndromes with a preponderance of pituitary disturbances. Thyroidin increased not only the basal metabolism, but also the specific dynamic action of food in myxedema.

Sympathectomy in Angina Pectoris.—Kohler and Weth describe the by-effects of left cervical sympathectomy performed successfully in a case of angina pectoris.

Differential Blood Counts.—Schilling uses differential blood counts, including young forms and rod-shaped nuclei, almost as a routine method in the dispensary. The absolute number of leukocytes is estimated from the blood smear. Erythrocytes and hemoglobin are determined only if warranted by the condition of the patient or the examination of the blood slide.

Monocytes in Exudates.—Schilling and Bansi studied the monocytes from exudates. They found oxydases in these cells only when the exudate contained also granulocytes. Monocytes cannot belong to the myeloid system, according to them.

The Arndt-Schulz Law and Roentgen Rays.—Frik and Krüger saw no stimulation of growth of prodigiosus bacilli irradiated with small doses of roentgen rays.

Grèce Médicale, Athens

25: 57-64 (Dec.) 1923

*Hemolysis by Bile. G. S. Joannidès.—p. 57.
Icterohemorrhagic Spirochetosis. Idem.—p. 58.

Hemolysis by Bile and in General.—Joannidès confirmed that the lysant action of sodium taurocholate on sheep erythrocytes is arrested by addition of serum or other colloidal solution. His research seems to show that lytic action is due to low surface tension, and, as colloids raise the surface tension, this suggests, he says, that what we call antibodies is merely a modification of the physicochemical condition, rendering the cells more vulnerable.

Casopis lekaruv ceskych, Prague

63: 257-292 (Feb. 9) 1924

Nephrosis. H. Sikl.—p. 257. Conc'n, p. 303.
*Art in the Insane. O. Janota.—p. 262. Conc'n, p. 308.
Puncture of Effusion in Pneumothorax. A. Reich.—p. 268.
Angioma of Ethmoidal Region. B. Kryze.—p. 270.
Treatment of Insomnia. M. Wassermann.—p. 273.

Art in the Insane.—Janota reproduces and analyzes several paintings by insane patients.

63: 293-328 (Feb. 16) 1924

*Antibody Formation. G. Kabrhel and M. Kredba.—p. 293.
Syphilis of Pituitary Gland. V. Jedlicka.—p. 297. Cont'd.

Antibody Formation.—Kabrhel and Kredba use a large dose of sheep corpuscles for the first injection (2 c.c. of a 50 per cent. emulsion intravenously, and 15 c.c. of a 100 per cent. emulsion intraperitoneally), because the danger of shock is slight. The further injections are small (0.5 c.c. of a 5 per cent. emulsion), thus avoiding anaphylactic shock.

Norsk Magazin for Lægevidenskaben, Christiania

85: 97-184 (Feb.) 1924

*Radiotherapy of Uterine Myoma. O. Semb.—p. 97.
Borborygmi in Sagging Stomach. S. Høyer.—p. 116.
Blood Pressure-Reducing Drugs. H. J. Vetlesen.—p. 120.
Vitamin Content of Milk in Different Seasons. E. Sopp.—p. 123.
*Bismuth Treatment in Neurosyphilis. H. Sæthre.—p. 126.
Means to Determine Genius Epidemicus. A. Magelssen.—p. 135.

Roentgen-Ray Treatment of Uterine Myomas.—Semb declares that radiotherapy is useful only for myomas in the uterus wall. The subserous and those in the ligaments and cervix are not modified, and the submucous scarcely at all. The indications for it must be determined by an experienced gynecologist; neither the general practitioner nor the roentgenologist is competent to decide when roentgenotherapy should be applied. In his own series of 22 cases, symptoms of acute roentgen poisoning—the *roentgenkater*—were observed in 4; 3 women had hemorrhages from the rectum for a time, evidently a vicarious bleeding, as amenorrhea became installed. In one woman of 46, hemorrhage in one retina followed the irradiation. He knows of no instance on record of retinal hemorrhages from roentgen-ray treatment, and is inclined to ascribe the retinal hemorrhage to the climacterium alone. Instances are known of retinal hemorrhages in the natural menopause. The symptoms from the induced menopause were annoying in 2 cases and persisted for four years, and, in a milder form, for three more years. No benefit was apparent in 4 cases, and operative measures were finally applied.

Bismuth Treatment of Neurosyphilis.—Sæthre reports very good results from bismuth treatment in 15 cases of cerebrospinal syphilis; in 3 other cases no benefit was apparent. Both clinical and serologic improvement was evident in 2 cases of optic neuritis, and there was great subjective improvement in all but one of the 8 tabetic patients. No effect was observed in the cases of general paralysis.

Ugeskrift for Læger, Copenhagen

86: 91-112 (Jan. 31) 1924

*No "Capillary Pulse." K. Secher.—p. 91.
*Gonorrhea in Greenland. Bay-Schmith.—p. 97.
Penal Responsibility from Biologic Standpoint. C. Geill.—p. 105.

Research on the Capillaries.—This fourth communication confirms Secher's previous conclusion that the alleged macrocapillary pulse is merely the pulsation in the larger and deeper vessels in the skin.

Greenland's Importance for Scientific Research.—Bay-Schmith says that his district in Greenland offers conditions like those of a laboratory experiment on a huge scale. The people are like experimental animals all in one cage, where they eat, live and die in a pure culture. The cage is closed during the six winter months as with a sterile cotton plug, and when this is removed, all the possible sources of infection from other parts of the world arrive at the one port in the district, and here there is close medical inspection. The reduction of virulence of pathogenic bacteria by passage through human beings is here demonstrated, as the infection occurs with a pure strain; in persons previously absolutely exempt; no other strains can reach them, and the whole proceeds under the eyes of a medical observer. Nowhere else in the world are these four conditions realized. In 1914, imported gonorrhea spread over his district like an explosion, but the pandemic died out completely in four to six years. A few recurring cases started small local epidemics which soon died out. The recurring cases were always found in the few persons who had occasional access to condiments, coffee and liquor, which are unattainable for the rest of the populace. Their food is thus necessarily, all the time, like the diet recommended in gonorrhea everywhere. He queries whether this may not be the cause of the decline of the virulence of the gonococci in his district.